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356

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Dialect Levelling in Limburg

Structural and sociolinguistic aspects

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Foreword

This book is the abridged and revised version of a study I completed in the autumn of 1992. Apart from removing parts of the original text (considerably so as far as Chapters 1, 2, 4, 6, 8, 9 and 10 are concerned), correcting a number of inconsistencies and filling a few gaps (mainly in Ch. 5), nothing much has been changed.

Very little has been added, and because of lack of time neither the theoretical phonological framework nor the body of references have been updated significantly. This is much to my regret. Yet I claim that one of the central points I make is largely independent of any particular phonological theory, namely that the study of language variation and change on the one hand and formal linguistic theory on the other need each other - at the time one of the not-so-many more or less original aspects of this enterprise. I have meanwhile found out that there are, fortunately, a growing number of linguists from both sides who share this conviction.

I am still grateful to the many people and organizations who, for a wide range of reasons, were indispensable to both the research project and the coming into being of the original study. Therefore, I will simply repeat what I wrote then as 'Acknowledgements 1'. Of course, I am indebted to yet other people and institutions for enabling me to prepare this new and, I hope, improved version. They will be addressed in Acknowledgements 2.

Acknowledgements 1

This is the final report on a research project which started in the summer of 1985. It was proposed by Prof. Toon Hagen (Department of General Linguistics and Dialectology, University of Nijmegen, where this investigation was conducted) and Prof. Pieter Muysken (Department of General Linguistics, University of Amsterdam). During the last two years they were assisted in their task of supervisors of this investigation by Prof. Roeland van Hout (Language and Minorities Department, University of Tilburg). From 1985 until 1988 the research project was supported by a grant from the Foundation for Linguistic Research, which is funded by the Netherlands Organization for Scientific Research (NWO). Later it was in part made possible by the Universities of Nijmegen and Amsterdam.

In addition to the persons and institutions just mentioned, I am indebted to many people both inside and outside the field of linguistics. I would like to express my thanks to everybody who in one way or another helped me to carry out the investigation and to write this book. Some of them should be mentioned explicitly. First of all, I would like to thank Mr. Benders and Mr. Gielen of the community of Landgraaf for enabling me to consult the population registers and for supplying other necessary data. I am also grateful to the people who cooperated in the Sittard fieldwork and, even

more so, to the 36 speakers of the Rimborg dialect who were kind enough to participate. Not only did they speak into the microphones for at least one hour, most of them even three times, but they managed to be considerate hosts at the same time. Third, I thank Jos Schumans and Henk Münstermann for their indispensable commitment during the last round of the fieldwork recordings, for which they had to come to Rimborg, and my student-assistant Jack Meijers, who carried out several kinds of tiresome jobs.

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The phonological part of this study has benefitted enormously from comments by and discussions with Carlos Gussenhoven, Wim de Haas, Haïke Jacobs, Wus Van Lessen Kloeke, Willebrord Sluyters and Wim Zonneveld. Special thanks are due to Leo Wetzels and Norval Smith for critically reading and commenting on several parts of an earlier version of the text and of the entire manuscript, respectively. Extra special thanks to both Wus and Leo for their generous support.

I am deeply indebted to Jeroen van de Weijer, who corrected much more than just my English. Moreover, he is almost singlehandedly responsible for the technical realization of this book.

Except for this foreword, I will almost exclusively use 'we', 'us', 'our', etc., in this book. In the vast majority of cases this should be seen as *pluralis modestiae*. In other words, none of the people mentioned above are responsible for the shortcomings of this work.

Finally, I would like to express my gratitude to Catia Cucchiarini for her patience and help. Most of all, I thank my parents for their trust and encouragement, and it is to them that I dedicate this book.

Nijmegen, October 1992

Acknowledgements 2

Many thanks to the editor Prof. Richard Wiese for his useful comments and suggestions, his admirable patience and repeated encouragements.

I am very grateful to the many fellow linguists, both in the Netherlands and abroad, with whom I have discussed aspects of this work. Much of what I learned from these discussions somehow found its way into this revised version.

The revision work itself was made possible thanks to a Fellowship of the Royal Netherlands Academy of Arts and Sciences. I am grateful to the Department of Linguistics of the Ohio State University (Columbus, Ohio) and especially to Beth Hume,

for making available an office where I could make a quiet start with the job, as well as to my own Department of General Linguistics and Dialectology at the University of Nijmegen for letting me disappear and go into hiding, respectively, for six weeks.

Again, I am deeply indebted to Jeroen van de Weijer for various kinds of technical assistance -on very short notice- and his indestructible good mood.

Nijmegen, April 1996

Symbols and abbreviations

The conventions of phonetic transcription are basically those of the IPA. In addition, the following symbols are used:

œ ^ɪ	vowel, half open - half closed, front - middle, half rounded, tongue body slightly raised
ɔ ^ɪ	vowel, half open - half closed, back, half rounded, tongue body slightly raised
ou	diphthong, first element half open, back
œy	} diphthong, in the dialect in certain positions the second element is not rounded, hence [i]
œi	
˘	half-length (of a vowel)
˘	a grave accent indicates a tone contour High-Low
˘	an upside down circumflex accent indicates a tone contour High-Low-High

tone contours are only represented if relevant.

The following symbols have a slightly different meaning than in the IPA alphabet:

ç	voiceless palato-velar fricative; 'Ich-laut'
ɣ ^ɪ	voiced palato-velar fricative
x	voiceless velar-uvular fricative; 'Ach-laut'
ɣ	voiced velar-uvular fricative

The third pair is used in exactly the same meaning as in the IPA-alphabet:

χ	voiceless uvular fricative
ʁ	voiced uvular fricative; voiced 'Ach-laut'

Non-phonetic symbols that are used are the following:

X	timing position
m	mora
σ	syllable
\$	syllable boundary
R	syllable rhyme
N	(1) syllable nucleus
	(2) noun

M	phonological word
clit	cliticized word
C	(1) consonant (2) clitic group
V	vowel
V	verb; verbal
Φ	phonological phrase
I	intonational phrase
μ	morpheme
-	any morpheme boundary
#	heavy morpheme boundary - e.g. between the two members of a compound word
##	boundary between morphologically independent words
Art	article
Dem	demonstrative
P	preposition
Pro	pronoun
S	clause or sentence
*	(1) -placed above a syllable node- stressed (2) -in superscript- illformed (3) -in superscript- reconstructed historical form
?	-in superscript- indicates uncertainty about the wellformedness of the form or phrase concerned
iff	if and only if
<	(1) is derived from (2) less than
\leq	less than or equal to
>	(1) developed into (2) greater than
\geq	greater than or equal to
x	absolute value of x

Other statistical symbols and abbreviations:

\bar{X}	mean
n	} number; sample size
N	
s	standard deviation
t	t value of the difference between means for correlated samples
MS	mean square (in analysis of variance)
F	F ratio: the variance between groups divided by the variance within groups

χ^2	chi square - here used only to determine whether or not two variables are independent of each other
r	Pearson product-moment correlation coefficient
b	the slope of the regression line
β	beta: multiple regression weight for standard scores
MR	multiple correlation coefficient
df	degrees of freedom
p	probability
%var	the part of the variance in the dependent variable which is related to the independent variable (sometimes symbolized as R^2 , which is the square of MR)

Symbols and abbreviations which are specific to this study:

A, B, C	the three dialect-geographical types of Limburg dialects investigated
C1, C2, C3, C4	the four types of contact situation represented in the spontaneous data
I	in-group contact
LV	linguistic variable
M	Middle age group
O	(1) out-group contact (2) Older age group
st.l.	standard language
Y	Younger age group

Part I

Models

Chapter 1

A sociolinguistic model and three hypotheses

1.1 Introduction

Languages change. The change of a linguistic system, whether a standard language or a dialect, may increase its structural distance to other languages or dialects. It may even lead to diminishing mutual comprehensibility. Dialect levelling never does. This study is on dialect levelling, the process as a result of which structural variation is reduced.

In all relevant branches of linguistics efforts so far have mainly been directed at some aspect of linguistic variation or change. Very little attention has been paid to the reduction of variation, that is, to dialect levelling. Processes of dialect levelling have hardly been investigated.

In this chapter we will develop a model of the reduction of structural variation. This model is developed on the basis of insights from three of the branches of linguistics that in some way or another deal with linguistic variation and change: historical linguistics, dialectology and sociolinguistics. As will be seen, our model is oriented most of all towards the sociolinguistic side.

Linguistic variation and change as well as dialect levelling have both internal linguistic and extralinguistic aspects. The sociolinguistic model that will be developed in this chapter relates dialect levelling to extralinguistic and linguistic dimensions.

With respect to processes of change and levelling, the questions that are probably most important are the following: how do these processes proceed and why do they occur at specific points in the grammar and not at others? It will be argued that extralinguistic factors can usually merely account for the question how, and only in combination with linguistic considerations. A model which seems to allow explanations and predictions regarding the structural linguistic paths of certain processes of change and levelling will be presented in chapter 2.

The phonological model that will be sketched in Ch. 2 is based on existing (generative) theories. In contrast to the sociolinguistic model of dialect levelling, we did not develop it ourselves. Just like the sociolinguistic model, the phonological model will be applied to the investigation central in this study. With respect to processes of dialect levelling, the phonological model is in a way part of our sociolinguistic model. In Ch. 2 we will explain our conception of the relationship between the two models.

1.2 The absence of studies of dialect levelling

1.2.1 Language loss, dialect loss and dialect levelling

According to the nineteenth century Sanskritist and comparativist Max Müller, the history of the Aryan languages was nothing but a gradual process of decay (Aitchison's 1981: 19, quoting Jespersen's translation). Müller's opinion was based on the gradual, but massive deflection of most Indo-European languages. The idea that the western languages were suffering from decay existed long before Oswald Spengler expressed his pessimistic visions of the decline of the occidental culture.

The conviction that irreversible processes of dialect loss are occurring is to an important extent ideological in origin, according to Mattheier (1986). This conviction undoubtedly formed an important impetus for the large-scale dialect-geographical projects that were undertaken from the last quarter of the nineteenth century onwards in Europe and America. For the Dutch language area in this respect mention should be made of the questionnaires by the Geographical Society (1879, 1895), Willems (around 1886), Schrijnen, Van Ginneken & Verbeeten (SGV 1914) and the 'Reeks Nederlandse Dialektatlassen' (Series of Dutch Dialect Atlases). Since the late sixties of this century dictionaries are being compiled of the Brabant and Limburg dialects at Nijmegen University, whereas the Flemish counterpart is being prepared at the University of Gent (Belgium). These and similar undertakings are a clear indication of the conserving function that dialectology attributed to itself in the face of the putative future erosion of dialectal variation. This attitude may seem a bit exaggerated, but it is not unwarranted. There are countless scientific and informal observations of dialect forms falling into disuse. In addition, dialects are usually neither codified nor standardized (i.e. usually there are no officially accepted norms of grammar or pronunciation, and no dictionaries for general use). Moreover, as a rule they are merely oral varieties. Functionally, they are limited both situationally and geographically. This relative lack of codification and extension, in combination with the fact that they are mostly low-prestige varieties, result in the fact that dialects occupy a relatively weak position vis-à-vis the national standard language(s).¹ Dialects nowadays should generally be placed on the left side of the 'vitality'-scale: language death - language loss - language maintenance - language revival (Hagen & Münstermann 1985: 65-66 - my translation, FH; cf. Markey's 1986: 3ff. 'morbidity scaling').

Dialect loss often goes hand in hand with a shift to (a variety of) the standard language. It must therefore be considered as a case of what - in the sociology of language - is called 'language suicide', which "occurs when the old and the new

¹ Of course, this characterization is (a) an abstraction and (b) appropriate solely for dialects in the western-European and Northern-American context; the notion 'dialect' is used here in the current 'culturo-centric' (Wölck 1978: 215) meaning. It should on linguistic grounds be distinguished from mere accent, being a linguistic variety that displays structural peculiarities in more than one component (cf. Chambers & Trudgill 1980: 5).

language are similar" - as opposed to 'language murder', which may take place "when they are dissimilar" (Aitchison 1981: 221). Such a process of functional replacement can, of course, only proceed via the speakers of the language involved and is therefore a socio-psychological or sociological process.² Except for the shift to another variety (usually the standard, and in any case a more standard-like variety) by an increasing number of speakers in an increasing number of domains and situations, the process of dialect loss also has structural consequences. With respect to the rise and spread of standard languages, Bloomfield (1933: 485) distinguished "the conversion of individuals and families to standard speech" from "the gradual assimilation of lesser dialects".

Likewise, dialect loss is here looked upon as the gradual abandonment by groups of speakers of dialectal elements or structures (dialect levelling) as well as functions which the dialect used to fulfil (dialect shift). This definition distinguishes dialect loss from language attrition in the Freedman (1982: 1) sense in two ways. First, dialect loss, as opposed to language death, does not necessarily wipe out the dialect as a whole, but affects parts of the system, which results in a reduction of the structural distance between the dialect and other varieties. Second, in order to separate dialect loss from competence loss within the individual (usually central in patholinguistics, applied linguistics and the study of second language acquisition), it will be referred to as gradual deterioration of the community grammar. Dialect loss thus negatively affects both the structural autonomy (through the decrease of the number of dialect features) and the functional autonomy of the dialect involved. Structural dialect loss or dialect levelling, then, is a process which reduces the number of features separating a dialect from other varieties, including the socially more prestigious standard language.

1.2.2 Research on the structural consequences of language contact

Historical linguistics and dialectology have taught us that a not fully completed process of language change (in the broad sense, i.e. including the spread of borrowed elements or rules) leaves behind intra- or inter-systemic variation. Intra-systemic variation, on the other hand, can lead to or be a phase in a process of linguistic change, as several sociolinguistic investigations have made clear. Dialect levelling is the process which reduces structural variation.

As a contact phenomenon, dialect levelling should be considered to be a type of dialect borrowing in the Bloomfieldian sense. This separates it from language change in the strict meaning, i.e. change that is motivated by internal tendencies, as is the case for sound change and analogical change. If one wants to regard it as a type of linguistic change, then at best it is a specific case of linguistic change (in the broad

² Gal 1978a,b; 1979 presented many interesting findings from a study of language shift in a bilingual rural community. On language shift as a cause of language *death* see Kloss 1984: 69-72.

sense of the word) that may occur in a specific sort of contact situation. Levelling is a highly specific case of linguistic change at least for two reasons. First, it is not necessarily linguistically motivated, and second, by definition it comes down to the reduction of structural variation; the change therefore invariably goes into one certain direction.³

Research into processes of dialect levelling fits into the older⁴ tradition of language contact studies concerning the possible structural consequences of language contact over a long period of time, like borrowing, interference, interlinguistic convergence (e.g. 'Sprachbund' or linguistic area) and the emergence of contact varieties, especially pidgins *casu quo* creole languages.⁵ Equally, in the semi-permanent contact between contiguous dialects (to which the standard variety should increasingly be counted), variants and varieties may remain or evolve that as far as geographical extension is concerned, surpass the merely local level. Consider, for instance, the geographically-not-so-limited lexical variants described in Hartweg (1983). Structurally such newly evolving or resistant older variants are often intermediate in nature.

Like other contact phenomena, dialect levelling should therefore be located on an emic, rather than an etic level. As was pointed out above, the ultimate locus of the process is not the individual speaker but the grammar, not some type of competence but the 'langue'. Of course, before it finally affects the linguistic system, thus reaching its (provisional) endpoint, it necessarily passes through the speakers' 'paroles'.

1.2.3 The notion of dialect levelling in the literature

The notion of dialect levelling is not new. It is more or less equivalent to the German 'Ausgleich', used specifically with respect to levelling of the differences between dialects, *casu quo* 'Abbau', which is levelling on the dialect - standard language level.⁶ To dialectologists like Wrede (see e.g. 1919: 10-13) and Frings, dialect levelling on the one hand and dialect mixing, 'Mischung', on the other, were the key mechanisms that destroy regularity and the alleged exceptionlessness of sound laws.

Bloomfield (1933) used the term dialect levelling with respect to dialect borrowing, implicitly distinguishing the short-term process of accommodation between speakers from the long-term process of levelling (between varieties), and the social

³ An abstract, formalized representation of the process can be found in Hinskens 1986c: 186-87.

⁴ More recent types of language contact studies are generally concerned with language use (e.g. code-switching) rather than with its long-term effects on the linguistic system.

⁵ Cf. Haugen 1950 for a typology of lexical borrowing and its possible phonological and morphological concomitants; Weinreich 1953 on interference; Jakobson 1931, Emenau 1956, Bynon 1983: 244-53, Chambers & Trudgill 1980: 184-88, Comrie 1981: 197-203 on linguistic areas; Bickerton 1975 among many others on creole languages.

⁶ Cf. Wrede 1919: 11-13; Schirmunski 1930: 172, 176; Reiffenstein 1976: 337, 344-45; Reiffenstein 1980: 97-98; Mattheier 1986.

from the geographical dimension. On the geographical dimension, levelling may disrupt the regularity that is the result of the application of sound laws. It operates in waves, but may leave behind relic forms, especially in toponyms, according to Bloomfield. On page 418 the notion is also used to refer to the result of an internal process of regularizing analogical change.

Weinreich (1954: 396) uses the term in connection with standardization, and Dillard (1972: 200) uses it to refer to "the process of eliminating prominent stereotypable features of difference between dialects. This process regularly takes place when speakers of different dialects come into contact, such as in migration."

According to Kristensen & Thelander (1984), levelling occurs between dialects, although in the Scandinavian context a necessary precondition for the process was the establishment of national standard languages. Still, "local dialects are seldom influenced directly by the standard language, but rather by regional varieties of it" (224). With respect to the locus of the levelling process itself, in their paper the two possibilities "1) the speech of an individual changes over time, 2) speech changes from generation to generation" (226), are reconciled in one model (235-36). The basics of this model are Baileyan, assuming graduality in all relevant dimensions. The degree of resistance to levelling of dialect features turns out to be positively correlated with their geographical spread. This correlation is relatively strong for the dialect spoken in the northern Swedish community of Burträsk (see also Thelander 1982: 72 ff.), but rather weak in the Danish data. This leads the authors to speculate that levelling moves from a situation of total dependence between, i.e. cooccurrence of, linguistic variables (bilingualism or bidialectalism) to one of absolute independence, in which each variable constitutes a variation pattern of its own.

In Mougeon et al. (1985) the term levelling has two meanings. It is used in the sense of simplification, or system internal levelling, and in the sense of "reduction [...] of structural dissimilarities between languages in contact", of which "interference and convergence are really two manifestations" (480). Trudgill (1986: 98-99) defines levelling as "the reduction or attrition of marked variants". Markedness here refers to the geographical or social position of the variants involved. In both respects it is equivalent to marginal - cf. also the assertion that levelling "involves the loss of marked and/or minority variants" (126). The notion has been used in exactly the same sense by Schlobinski (1987: 156-57). Levelling, according to Trudgill, is "likely to be of importance in most new-dialect formation contexts." Trudgill's book has been indispensable to the present study; therefore we will dedicate a separate subsection to it (§ 1.2.5 below).

Thomason & Kaufman (1988: 30), finally, accept what they see as the traditional meaning of the notion of dialect levelling, namely "change toward greater similarity of dialects". They reject more constrained definitions, especially linguistically constrained meanings like "change toward a less marked overall system". The authors adduce some evidence to show that the process is just as likely to result in a gain in markedness.

1.2.4 Fencing off the notion of dialect levelling from related concepts

In section 1.2 so far we have dealt with, among other things, the relationship between dialect levelling and other notions such as language loss, death and attrition, and dialect loss and shift. In order to further demarcate the notion of dialect levelling, an attempt will be made to negatively define it vis-à-vis six more or less related terms. Our sketch and discussion of those terms must be short, and can therefore be hardly more than skin deep.

The term *reduction* is used to refer to the "actual loss of some part of a language without resulting complication of another component to make up for that loss" (A. Schmidt's 1985: 395 paraphrasing earlier work of Trudgill). Mougeon et al. (1985) use it in the same sense: the decline of linguistic means, of "the referential or non-referential potential of a language" (Mühlhäusler in Siegel 1985: 358 and in Markey 1981: 27). The latter author mentions impoverishment as a synonym.

Simplification can be defined as increasing regularity. There are two ways to achieve this: one is to increase morphophonemic regularity, which can for example be obtained by making paradigms more symmetrical. This may lead to less opacity. The other is to increase the regularity, hence the predictability of the correspondence between content and expression, resulting in greater morphological and lexical transparency (Mühlhäusler after Trudgill 1986: 103). Simplification may occur where linguistic structure is not optimal, as is the case in irregularities, infrequent forms, etc. (Mougeon et al. 1985: 474). The degree to which it occurs "may be influenced by *lingua franca* usage and by language death". Simplification is "a result of imperfect accommodation", especially of long-term accommodation in the language use of adults (Trudgill 1986: 107, 147, 161). According to Markey (1981: 27), simplification results in increased naturalness and less markedness.

As should be clear from these quotations and paraphrases, the notions reduction and simplification describe language-internal developments without reference to causes or determinants. Dialect levelling, as a contact phenomenon, may (Hagen & Münstermann 1985: 79) but need not result in reduction or simplification. Nor is it necessarily limited to the morphological or lexical components, as is the case with simplification, particularly in Mühlhäusler's perspective.

The notion of *convergence* has been used in two related meanings. In the socio-psychological one, it refers to what can happen linguistically when speakers adapt "to the speech of others to reduce differences" (Siegel 1985: 367). As such, it is a type of accommodation (modification), namely the opposite of divergence, which is the exploitation and making quantitatively more salient of differences (Mougeon et al. 1985: 479). Convergence and divergence are the opposites of non-accommodation in Giles' model. In contact linguistics, the term convergence is sometimes used to refer to the process in which dissimilar languages or linguistic varieties become more similar. The most famous example is probably the Kupwar case described by Gumperz & Wilson 1971. (Mougeon et al. 1985: 457 use the term in this meaning as well.) One can imagine this to be a long-term effect of interspeaker accommodation.

Unlike convergence, dialect levelling in the sense used in this study (a) is not only a performance phenomenon, but (b) also refers to what ultimately happens at the level of the 'langue', and (c) though in the long-term meaning it comes down to dissimilar varieties growing more similar, it does not necessarily come about by mutually or one-sidedly taking over of characteristics of the other variety.

Weinreich's (1953: 1) original definition of *interference* is: "Those instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language, i.e. as a result of language contact". According to Mougeon et al. (1985: 480) interference "differs from convergence in that it produces a new usage or qualitative change". Like interference, dialect levelling is a contact phenomenon. However, it cannot be considered to be a type of interference in the Weinreichian sense, since (a) it is not a concomitant of bilingualism, and (b) it is not merely a performance phenomenon. Dialect levelling need not produce a new usage, but it may very well result in qualitative changes.

Koinéization, unlike dialect levelling, "involves the mixing of features of [...] different dialects, and leads to a new, compromise dialect". It results "from integration or unification of the speakers of the varieties in contact" (Siegel 1985: 365, 369). Clearly, dialect levelling cannot be identified with koinéization. First, dialect levelling does not merely take place in the space in between dialects; it may also occur on the dialect-standard language level. Second, its end product cannot be equated with that of koinéization, a koiné being the structurally stabilized and sociologically more or less standardized product of heavy intermixture. Usually it functions as a *lingua franca*.

Finally, dialect levelling is different from *decreolization* (Bickerton 1975). A whole cluster of differences stems from the fact that the socio-cultural settings of both processes are nearly incomparable. Linguistically, there are two essential differences: first, the historical relationship between a basilect and its acrolect differs from that between a dialect and the related standard language. Whereas in most cases the acrolect is one of the ancestors of the basilect, a dialect and the related standard language are usually (roughly speaking) siblings. Second, whereas decreolization is by definition a movement in the direction of the acrolect, dialect levelling need not necessarily be a development in the direction of the standard language. As has already been pointed out, it may take place on both the interdialectal and the dialect-standard language level.

We conclude that the notion of dialect levelling can be satisfactorily distinguished from related concepts. As we saw in § 1.2.3 above, the notion dialect levelling itself is not unknown in dialectology and contact linguistics, although it is probably impossible to find two authors who use the term in exactly the same sense. Bloomfield supplied a number of valuable considerations, and Kristensen & Thelander developed a (partly empirically-based) abstract dynamic model. Nevertheless many questions still remain unanswered. In section 1.3 a sociolinguistic model will be developed from which three hypotheses will be derived that are central to the investigation described in chapters 4

to 12. First, however, we will devote some attention to Trudgill's book *Dialects in contact*, published in 1986.

1.2.5 Trudgill's model of accommodation and levelling in situations of dialects in contact

Historical linguistics, dialectology and quantitative sociolinguistics are concerned with the emergence, and especially the distribution and spread of variation in linguistic and extralinguistic space. The present study concentrates on the opposite phenomenon: the reduction of variation within and between varieties.

To our knowledge, Trudgill (1986) is the most recent and most elaborate study of the possible structural consequences of a situation of *dialect contact*, including levelling. It is the first attempt to develop an integrated (social-psychological, sociolinguistic, dialectological) scenario for the mutual influence dialects may have upon one another in a situation of contact. The integration of different approaches gives the model a certain degree of explanatory potential. For these reasons and because of its importance to the present study, the work deserves special attention. In this subsection, Trudgill's scenario will be briefly sketched and critically analysed. In the following section the model guiding the present study will then be presented as an improved alternative.

According to Trudgill (1986: 11, 37⁷), accommodation between individual speakers of different dialects takes place with respect to features that are salient, displaying phonetic or surface phonemic contrasts between the dialects. As in Giles' theory, the accommodation may take the form of the reduction of differences or even the adoption of features from the dialect of the interlocutor. The order in which different features are affected by accommodation is possibly fixed to a significant degree.

"If a speaker accommodates frequently enough to a particular accent or dialect [...] then the accommodation may in time become permanent", provided attitudes are favourable. "When a speaker employs a new feature in the absence of speakers of the variety originally containing this feature" (40), as an 'act of identity' with these people, the accommodation becomes stabilized. This is a necessary condition for the diffusion of features in the contact situation. In this process, again mostly limited to salient features (43-53), geographical (distance) and demographic (population size) factors play a role.⁸ Especially in the dialect use of adults (28-37, 161), the accommodation constituting such interdialect convergence need not be complete. The result may be

⁷ See also Chambers & Trudgill 1980: 84-86.

⁸ Cf. the 'gravity model' presented in Chambers & Trudgill 1980: 196-204 and Bloomfield's "density of communication" (1933: 46-47, 326-28, 340-45 and, implicitly, 481).

- (a) quantitative variation between the 'old' and the 'new' variants (cf. Bloomfield's "fluctuation in the frequency of forms" 1933: Ch. 22), or
- (b) the 'new' variant occurring in some words, but not in others, i.e. a lexically diffused incidence; this process is termed 'transfer' and its product 'mixed dialect', or
- (c) intermediate, phonetically approximate forms; the resulting variety is called 'fudged dialect' (57-62).⁹

Phonetically intermediate forms are a type of 'interdialect forms'; another type is hyperdialectalism. This, however, is the result of divergence rather than some sort of convergence (62-78).

Contact between dialects may lead to "an enormous amount of linguistic variability in the early stages" (107). In this situation 'koinéization' may take place, "variant reduction [...] during the focusing period in the growth of [a new] dialect" (99). This focusing period will also be characterized by intermediate forms. Koinéization, which is a process of 'reduction', is a combination of levelling and simplification. As may be clear already (Trudgill's definitions of both terms were given in the preceding subsection), in this model levelling occurs between dialects, whereas simplification is a process taking place within a single dialect. However, not all variation of the phase preceding the koinéization is reduced. The remaining variation, i.e. the "forms that are not removed during koinéization [...] will tend to be reassigned according to certain patterns" (110). This 'reallocation' can cause variants to take on a specialized linguistic (allophonic) or extralinguistic (social, stylistic, geographical) function (110-26).

This completes a rough description of Trudgill's model. Some critical notes are in order here. The first concerns the notion of 'salience'. It is quite remarkable that salience is sometimes used as an explanation for accommodation (and diffusion c.q. reduction - e.g. 45) and sometimes to explain why accommodation does *not* take place (125, 159). In other cases it is simply not possible to say whether a feature is salient or not (47-51). The problem is in short that it is probably impossible to give an intersubjective operationalization of this notion. The criterion as such as well as its impracticability strongly reminds one of Schirmunski's (1930: 118 ff.) distinction between 'primary' dialect features (those very susceptible to change or loss) and 'secondary' dialect features (those relatively resistant). Here primary dialect features are the "am stärksten auffallenden" (most strongly salient) as against the secondary ones, which are the "weniger auffallenden" (less salient). Though the idea is attractive and other, derived criteria are mentioned, Schirmunski has done nothing to prevent his critics¹⁰ from accusing him for having introduced a basically non-empirical proposal. A typology of the many criteria that have been proposed (merely in German dialectology) in relation with the primary vs. secondary distinction since Schirmunski

⁹ As already noted by Aitchison 1988: 158 and Rickford 1990: 269, throughout the book Trudgill's perspective is mainly limited to the sound components.

¹⁰ Trost 1968; Löffler 1974; milder critical positions have been taken by Reiffenstein 1976, 1980 and Mattheier 1980b.

introduced his ideas, as well as three possible operationalizations are presented in Hinskens (1986a). The criterion that seems most comprehensive and certainly deserves further investigation is geographical spread.

The second note concerns terminology. There seems no reason why the notion of levelling should be restricted to the reduction of interdialectal variation alone. It cannot be maintained that the intra-systemic effects of contact with another dialect (including, of course, the standard language) always amount to simplification.

Independent arguments in favour of the first claim derive from the examples Trudgill gives in the sections on levelling and simplification (98-107). The simplification of the morphophonemic alternations between velar and palatal consonants in the modern Høyanger dialect of Norwegian constitutes levelling not only of intrasystemic variation but at the same time of the variation that existed between this dialect and non-Western Norwegian varieties. The same holds for the loss of the allomorphy rule in the same dialect in the post-posed feminine definite article. As regards the four or five aspects of Trinidad Hindi presented as cases of simplification (107), to the extent that they are consequences of contact with languages that do not have the characteristics described (like English), they might equally well be considered as cases of levelling in the sense in which Trudgill uses this notion. It would be better to assume that levelling can affect both inter- and intra-systemic variation and, intra-systemically, may or may not result in simplification.

Of less importance but still confusing is the fact that it is not clear whether the notion of koinéization covers levelling and simplification alone (106, 107, 126) or mixing, levelling and simplification (127).

The third objection concerns the fact that the term 'naturalness' is used throughout the study without definition. For unknown reasons, the closely related notion 'markedness' is not used in its original, linguistic sense. This, however, can hardly be held against Trudgill in the first place; rather, it is typical of a branch of ('developmental') linguistics.¹¹

The final major weakness in Trudgill's scenario concerns his conception of the relationship between reallocation and accommodation. The honesty and modesty with which he admits that not all questions regarding the scenario can be answered yet (e.g. 78-81) make his proposals the more convincing. But the 'problems' pointed out on pages 125-26 do not exist. A more consistent view may be that there is a general 'fear' among language users of variation, of formal differences without a related semantical difference (or a grammatical difference in the case of certain function words). This tendency is known as the Humboldtian or 'one-meaning-one-form' principle. In order to get rid of variation (which is more than abundant in a situation of dialects in contact), two strategies are generally available. One is to simply throw away - so to speak - one variant (Markey's 1986: 12 'alternant dumping'), which is what happens in the cases of levelling and simplification. The other remedy consists of

¹¹ Cf. Scheutz' 1985a: 39-41 criticism of Bailey's unmarked, marked, overmarked labelling.

allowing for structural variation in such a way that the coexistence of the forms involved is semantically disfunctional, by attaching extra connotational or structural (e.g. allophony) functions to them. After the process of reallocation a difference in 'meaning' *does* exist.

The latter strategy is illustrated by way of Labov's (1972a: 251) 'vases' example: "The oscillation of socially marked pronunciations of *vase* led one informant to say, 'These small ones are my [veziz] but these big ones are my [vaziz].'" Another example of the second strategy is supplied by an informant for the present investigation. The Dutch word *blad* can be used to refer to 'leaf' (of a tree) or to 'table-leaf'; the dialect variant is /blad/. When prompted to produce the dialect variant of the plural form, the informant (inf. 38) hesitated between the correct form /blar/ and a hyperdialectal, umlauted make-shift variant /ble:r/. Not knowing which one to choose, he probably thought to find the solution to this non-problem by asking the interviewer which of these meanings was intended in this case. He finally separated the hyperdialectal form for the meaning 'leaves', implying that the other, 'original' form /blar/ means 'table-leaves'. Of course, a variant that has undergone this second strategy may in a later phase still undergo the first strategy, alternant dumping.

So it seems that after all there is no reason to doubt the value of the accommodation model simply because "certain variants are not levelled out".

Trudgill's scenario is evidently most useful, despite the fact that it needs to be refined on several points. In the remainder of this first chapter the model underlying our study will be presented; the number of essential differences with Trudgill's model is relatively small. In our modest opinion, however, they are important enough to label it an alternative model.

1.3 Developing a sociolinguistic model of dialect levelling. Introduction

The historical transition from an agrarian to an industrial society triggered a number of cultural changes which indirectly and gradually had a tremendous effect on the position of the dialects. Among the cultural changes are increased literacy, improved means of transportation (leading to commuting and increased general mobility), and increased anonymity and massiveness in society. These changes generally made 'the world' smaller and thus, in combination with resulting demographic reshufflings, brought non-contiguous dialects (including the standard variety) into contact with one another. Many rural communities were slowly absorbed into the towns, which caused the dialect slowly to lose its natural habitat.

These developments in turn brought about important changes to the dialect in the consciousness of its speakers. Only one or two generations ago for the majority of people the dialect was self-evidently the mother tongue and after childhood practically remained the one and only tongue. Nowadays it is increasingly pushed towards a

special position. Many recent investigations¹² show that dialect speaking *in general* increasingly becomes the 'marked option'. Van Hout & Münstermann 1988 is only one of the many recent studies showing - among other things - that it is more and more unusual for parents to choose the dialect as the language of primary socialization of their children. In all of these studies "*parents and children*" invariably turns out to be the most unstable domain of dialect use. So, as a chief input code in language acquisition the dialect is losing ground in favour of the standard language. It may very well be the case that this has its effect upon the active part the child itself takes in its socialization, thus weakening the dialect's position as an intake code as well.

In sum, both on a macro- and on a micro-scale the dialect is losing ground. This is, very briefly, the functional side of the process of dialect loss, for which we reserved the notion of dialect shift.

1.3.1 Inter- and intra-systemic variation

As for the linguistic side of the process of dialect loss, the notion of dialect levelling was introduced to refer to the reduction of structural variation in general. Hence, in contrast to Trudgill (1986), we use the notion in connection with the reduction of both inter- and intra-systemic variation. Moreover, and again in contrast to Trudgill, we assume that intra-systemically levelling may or may not involve simplification.

The distinction between intra- and inter-systemic variation is one not usually made in sociolinguistics, which thereby neglects a factor that may be important in 'explaining' quantitative variation in dialect use. Admittedly, it is often almost impossible to strictly distinguish both types of variation. There seem to be only few instances of inter-systemic variation (a feature distinguishing dialect X from dialect Y) that do not show intra-systemic variation, either lexically or in frequency of use of the dialect feature or both.

Likewise, it can be very difficult to establish whether a linguistic change is the result of internal forces or of contact alone: "interlingual influence is far from easy to prove when there are (and there usually are) competing internal explanations for the suspected cases of transfer" (Mougeon et al. 1985: 457). Markey (1981: 25) claims that sociolinguistics ('glottometry') cannot determine whether a certain linguistic change is the consequence of intermixture or of 'internal natural change' and Givón (1979: 5) goes so far as to claim that the only language that can be considered to be a 'non-contact-language' is Universal Grammar. According to Weinreich, Labov & Herzog (1968: 184), it is impossible and undesirable to insist on making the distinction between internally and externally motivated change; the theory of language change "stands to gain by considering every dialect as transitional. Consequently, there is no

¹² See Van Hout & Münstermann 1988, Cucchiariini & Hinskens 1988, Hinskens 1993 for references.

need to distinguish between intradialectal change and mixture of (jointly available) dialects."

We define intra-systemic levelling as the reduction of internal variation, i.e. variation on strictly linguistic dimensions. The notion intra-systemic levelling thus *includes* Trudgill's simplification, whereas inter-systemic levelling is equivalent to Trudgill's levelling. Clear instances of both types of dialect levelling were brought to light, for instance, in Klepsch' diachronic study of sound changes in the city dialect of Nürnberg (Rowley 1990: 206-208).

1.3.2 Dialect levelling is a two-dimensional process. Hypothesis I

Although there is hardly any literature on dialect levelling as such, especially German dialectology and sociolinguistics have produced a considerable number of useful insights. This is a fortunate condition, also because, as far as the dialect situation is concerned, our research area (and the Dutch language area in general) bears more resemblance to the German-speaking world than to the anglophone one, let alone the Anglo-American part.

In developing a sociolinguistic model of the process of dialect levelling we will of course profit from these German findings. Some results of a survey of this literature will be considered here.

First of all, we will pay attention to the inter-systemic dimension of the process of structural dialect loss. As a consequence of dialect levelling, a "sub-standard or, in the favorable case, [...] provincially colored standard" may emerge (Bloomfield 1933: 485). The more common it becomes to use such a partly de-dialectalized variety, the more it loses its makeshift character. Gradually it may grow into an 'Umgangssprache' (lit. vernacular), to use a notion from German dialectology.¹³ 'Umgangssprache' can be loosely characterized as a regional variety of the standard language, possessing or at least developing a set of vague norms. We will leave aside the many problems regarding the meaning of this shifty notion. Instead we will very briefly concentrate on the process that may lead to its development.

Mattheier (1983: 1460) uses the notion of 'Dialektverfall', dialect decay, with respect to the abandonment of dialect variants in favour of standard variants. The loss of dialect features often leads to a structural approximation of the dialect to the standard variety. However, this is not necessarily the case, as becomes particularly clear from findings by Thinnes (1981: 331). Thinnes described cases where the loss of a dialectal nasalization rule results in formerly transparent correspondences between dialect and standard language becoming opaque (my terminology, FH).

¹³ See Ingulf Radtke 1973 and Munske 1983, among many others. Willemyns 1987 introduced the label 'regionale omgangstaal' with respect to a partly de-dialectalized type of Flemish.

Levelling in the space between dialect and standard language is not the whole story. What is more, it may very well be the case that this kind of levelling is generally a more recent form, the other and probably older form being interdialectal levelling (cf. J. Goossens 1986: 259-61). Terracher's study of the dialects of the region of Angoulême (France) brought to light that "l'agent destructeur de la morphologie des patois n'est pas le français, mais les parlers limitrophes" (Pop 1950: 106).

Hence levelling is not always equivalent to standardization. It may even result in the emergence of a koiné in the form of a regional dialect characterized by supralocal dialect variants.¹⁴ In any case, levelling in the interdialectal space leads to a yielding of local rural dialects to more regional ones (Clyne 1984: 43-60). To the extent that the number of variants from the older local dialects is being reduced in favour of greater uniformity, this process may be considered as a special type of standardization ('Quasi-Standardisierung' - Stellmacher 1984). This mechanism may account for the fact that certain phonological traits distinguishing the 'standard' German spoken in Austria from that spoken in Germany "are by no means being levelled out" (Seidelmann 1988: 122 - my translation, FH). Levelling in the interdialectal space can therefore be considered as a process of focusing of formerly diffuse varieties.

In this connection, Paardekooper 1950 is somewhat atypical, first because the author is one of the relatively few non-German authors to write about these topics, second because he is better known as a grammarian in the Netherlands and Belgium. Still, his article concerning language in boarding schools, despite its rather poor empirical basis, is very interesting for our purposes. It presents the results of a small study of several types of accommodation in the dialect use of pupils of boarding schools and seminaries in the Dutch province of Limburg. In this province dialectal diversification is traditionally relatively large. The accommodation in the dialect use of these pupils, who come from several regions in the province, is shown to take on three forms. (Of course, accommodation is not the same thing as levelling, but, as Trudgill 1986 quite convincingly argued, it can be its short-term preamble; we will return to this issue in § 1.3.4.) First and foremost, accommodation consists of avoiding features that are felt to be too typical of the speaker's place or region of origin (34, 36). One could say, that under the given circumstances the use of such features would constitute a brute divergence. Another strategy is the use of standard language variants (38). One might term this the neutral 'third language' option. The third type of accommodation is the use of variants from other dialect varieties than one's own (35-37). This last strategy can be considered as the positive counterpart of the first one. The results of the investigation carried out in the southeast Limburg village of Ubach over Worms

¹⁴ Weinreich 1954: 396. See also Dressler 1972: 222 and Hartweg 1983: 1326. Here Willemyns' 1987 label 'getransliteréerd dialect' is relevant. The notion 'koiné' is used here in much the same sense as in Dillard 1972: 300 - cf. § 1.2.3 above. For the sake of terminological transparency we will henceforth avoid using notions like koinéization.

described in Hinskens (1983, 1985a) pointed in very much the same direction as Paardekooper's small-scale study.

Adoption of variants of other dialects rather than of the standard variety in the course of a process of interdialectal levelling was demonstrated in Ramge's (1982) dialect-geographical study for certain phonological and lexical phenomena. In the small-scale sociolinguistic investigation presented by Dewulf et al. (1981: 58), at least one instance was found where speakers of a largely East-Flemish dialect adopted a phonological characteristic of neighbouring West-Flemish dialects which does not occur in the standard language.

The development of regional dialects need not only consist of the structural-linguistic dismantling of local dialects and the areal diffusion of features existing in neighbouring dialects. In this process even new variables may develop, as is the case in a long-drawn zone in the centre of the German language area. In this zone the so-called 'Ich-laut', /ç/, has a palato-alveolar variant. Both articulatorily and perceptually this variant is very close to /ʃ/, the main difference between both variants therefore being the feature [strident]. The phenomenon has been described by Grosse (1964: 343; 1970: 374) and Herrgen (1986). The new variant does not have historical roots in any single local dialect. It may very well be a feature of an emerging areally-bound substandard; this impression is supported by Herrgen's finding that the use of the palato-alveolar variant underlies social evaluation.

Undoubtedly, the development of new dialect features is a rare manifestation of dialect levelling. On the other hand, from findings for a range of different dialects in Western-Europe it appears that there is much more to the levelling process than the reduction of structural variation on the dialect - standard axis. The overall impression that the possible developments with respect to the direction of processes of dialect levelling give, lead to

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dialect levelling affects variation on the dialect-standard language dimension as well as variation across dialects; in processes of dialect levelling both dimensions can be mutually independent

1.3.3 Dialect levelling proceeds gradually. Hypothesis II

The Neogrammarian model of linguistic change has been attacked for being one-sidedly linguistic. Traditional dialectology is quite the opposite of Neogrammarian historical linguistics, in the most extreme cases losing itself in a strictly descriptive, almost a-linguistic atomism (cf. Van Hout 1980: 8, 10; Markey 1981: 23; 1986: 14; Scheutz 1987: 1608).

A realistic model of dialect levelling should capture both extralinguistic and linguistic details. Such a model might orient itself towards existing conceptions of and approaches to language change and combine the best of the Neogrammarian, dialectological and sociolinguistic worlds, so to speak.

Dialectological research has led to the insight that the structural differentiation between dialects is usually¹⁵ geographically gradual, isoglosses or transition zones marking the outer edges of the areas through which past changes pervaded before they got frozen. The idea of change taking place in geographical waves, possibly jumping from town to town, is familiar to dialectologists. It has also proven fruitful in cultural anthropology (Herskovits 1955: 468 ff.). The 'age-and-area hypothesis' concerning cultural innovations states that peripheral regions may maintain features that were once restricted to the centre, but meanwhile became old-fashioned there.

Quantitative sociolinguistic research of language change resulted among other things in the insights that (1) change in progress may be visible synchronically in the distribution of the new feature among age groups, and (2) the use of a new feature may be conditioned by macro-social variables as well as by characteristics of the 'situational' context of the speech event. In short, linguistic change is often gradual and continuous in time and in social dimensions.

The gradualness of linguistic change in structural respects is implied in De Saussure's postulate "*le principe d'altération se fonde sur le principe de continuité*".¹⁶

In Bailey's (1973) model, language change, and particularly the diffusion and expansion of a linguistic innovation, proceeds gradually on linguistic and extralinguistic (social, geographical) dimensions. Linguistically, markedness is the central concept. Structurally as well as in geographical and social space, language change takes place in wave-like patterns. In sum, "all change proceeds by stages ranked along continua" (Markey 1981: 5).

In this vein, though not relying on markedness as a linguistic measuring-stick, Eckert (1985) showed that the diffusion of *a > [o] in southern France proceeds in waves, morphologically and phonologically as well as geographically. In his state-of-the-art paper on studies of sound change, Scheutz (1987: 1612) concludes that the process spreads through a multi-dimensional space in wave-like patterns.

From these and similar findings, it appears that dialect levelling, the process in which features typical of a specific dialect fall into disuse, should not be assumed to be abrupt in any respect. After all, '*natura non facit saltus*'. We will study our model of dialect levelling by testing

¹⁵ But not always. Van Reenen 1987 and Taeldeman 1987 describe the geographical reflections of historical linguistic developments that took place in the extreme north of the French language area and in Flanders, respectively. In both areas both gradual and abrupt phonological transitions are found. Generally, for certain types of change, especially in grammar and lexicon, it is almost impossible to occur structurally gradual. Cf. Weinreich, Labov & Herzog 1968: 106.

¹⁶ As quoted by Coseriu 1958: III.5.1.

HYPOTHESIS II

dialect levelling is gradual in linguistic as well as in extralinguistic respects

Our model portrays the process of dialect levelling as the mirror image of the diffusion of linguistic innovations in Bailey's view. We claim that dialect levelling is gradual not only in the time dimension, but also geographically and structurally.

In our conception of dialect levelling, gradualness does not necessarily imply that speakers are unaware of the process (cf. Hinskens 1985b: 132), as is the case in Paul's psycho-phonetic theory of sound change. Nor does gradualness imply that the process should be statistically linear in any respect. After all, the diffusion of linguistic change, which in a way is the opposite of dialect levelling, has quite often been observed to proceed via the curvi-linear pattern known as S-curve (for which Aitchison 1981: 97 used the illuminating label "slow-quick-quick-slow pattern").

We assume dialect levelling to be gradual on the linguistic dimension. Thus, we claim that, on linguistic grounds, the process can in principle be expected to affect certain elements or structures before it affects others. In other words, dialect levelling is structurally directional. We will return to this aspect in Ch. 2.

With regard to extralinguistic aspects, attention should not be limited to time; it should also take into account geographical space. A model of dialect levelling cannot afford to neglect dialect-geographical factors. Generally speaking, the 'density of communication' (Bloomfield 1933) between speakers increases with decreasing geographical distance. Therefore one would expect dialect levelling to increase with decreasing geographical distance between varieties. Structural convergence between spatially contiguous linguistic systems even occurs in languages of totally different families and grammatical types, as was shown by Gumperz & Wilson (1971); further evidence is provided by the Balkan linguistic area, for instance ('Sprachbund' - see § 1.2.2 above).

We will test the idea on a geographically smaller scale by studying the effect of the areal distribution of dialect features on the levelling process. As argued in connection with Trudgill's 'salience' and Schirmunski's distinction between 'primary' and 'secondary' dialect features (§ 1.2.5 above), the relative areal spread of a dialect feature -other things being equal- may be a good predictor of its susceptibility c.q. resistance to loss or accommodation.

This assumption is firmly supported by findings by Thelander for the dialect of the northern Swedish community of Burträsk: the use of 12 morphophonemic and morphological dialect features by the youngest speakers in his sample patterned into two clusters ('macrovariables'). Seven of these variables were used by the < 20 age group far more frequently than by the older speakers, whereas the use of the five features forming the second cluster showed a decrease in apparent time. This difference turned out to correlate positively with a dialect-geographical one, leading Thelander to conclude that "the most powerful basis for determining the vitality of a dialect variant in present-day Burträsk would seem to be its geographical dispersion in northern Sweden" (1982: 72). Dewulf et al. (1981: 61 - cf. § 1.3.2 above) similarly

found that the change of the segments they studied was influenced by the distance of the relevant isogloss: the smaller the distance, the larger the amount of variation, *casu quo* change.

In sum, the proportion of use and the resistance to levelling of a dialect feature may well be linked to its spatial dispersion.¹⁷ From the point of view of the dialect levelled out, the areal dispersion of a feature -again, other things being equal- may be an important factor in its degree of resistance to levelling.

1.3.4 Dialect levelling is foreshadowed in accommodation. Hypothesis III

In Bloomfield's view, dialect levelling starts as a social process, motivated by prestige in the first place. For that time, Bloomfield reached a most remarkable degree of socio-psychological nuance in his description of the onset of the process: "Every person belongs to more than one minor speech-group; a group is influenced by the persons who, along some other line of division, belong to a dominant class. [...] The humble person is not imitated; the lord or leader is a model to most of those who hear him. In conversation with him, the common man avoids giving offense or cause for ridicule; he suppresses such of his habits as might seem peculiar, and tries to ingratiate himself by talking as he hears. Having conversed with the great, he himself may become a model in his own group for those who have not had that privilege. Every speaker is a mediator between various groups." This is what Labov later called 'change from above'.¹⁸

As the new speech forms stabilize and spread over wider and wider areas in the manner of widening circles (Bloomfield 1933: 477, 480), the process extends itself to become dialect levelling. Where the levelling process comes to an end, it leaves behind an isogloss. Linguistic differences within a dialect area are due either to a lack of mediatory speakers or to absorption of a foreign area, but most probably to "imperfect leveling" (478, 481).

In short, in Bloomfield's conception of the process of dialect levelling, there is a continuum ranging from social, face-to-face to large-scale geographical levelling - as in Trudgill's (1986) elaborated model summarized in § 1.2.5 above.

Like Bloomfield and Trudgill, we are convinced that the process of dialect levelling starts as the interactionally motivated phenomenon of linguistic accommodation. (We also hinted at this relationship in § 1.3.2 above.) Accommodation can be circumscribed as the mutual 'tuning up' of behaviour between interactors. In

¹⁷ Cf. also J. Goossens 1986 *passim*, Hinskens 1986a: 146; 1986b: 64; 1986c: 194-95.

¹⁸ Bloomfield's (1933: 476-77, also 403) model can be criticized for being one-sidedly oriented towards prestige as an impetus for the adoption of speech forms, thus showing the same bias that Labov's conception has been accused of: viewing society as (what in sociology has been labelled) a 'harmony-model'.

sociolinguistics the notion is used most of the time in its narrow, positive meaning: convergence, resulting in 'interactional synchrony'. A rather common interpretation of the synchronizing of behavioural traits of interactors is summarized in the notion of 'reduction of dissonance' (see Van der Plank 1985: 37-38 for references). In some situations it seems more than wise to reduce linguistic dissonance as much as possible. One of the speakers who participated in the present investigation told us about a football match in the national league between a regional team and the team of a big city in the western part of the country which he and some of his friends had attended:

"and we [were] *also* talking Dutch [i.e. the standard variety - FH], because I said to myself: you'd better speak Dutch rather than dialect, because otherwise you might get beaten up"
(inf. 38 - my translation, FH).

Linguistic accommodation, whether interactional synchrony or not, can be looked upon from the perspective of the functions of language use. Partly on the basis of Bühler's 'Organon-Modell', Jakobson (1960: 214-17) distinguished the referential function, the overt message of an utterance, from functions relating to the participants in the interaction and their relationship. This second type consists of

- emotive or expressive functions (relating to the addresser),
- conative functions (relating to the addressee, e.g. vocative, imperative) and
- phatic functions (relating to the contact itself and the situation).

These three functions serve the covert message of an utterance.¹⁹ The phatic functions are central in accommodation.

Bell (1984) demonstrated that it is not only the addressee that a speaker can accommodate to. Reanalysis of data from other investigations as well as Bell's own research findings show that speakers may also accommodate to so-called 'third persons': to auditors and even to overhearers. Remarkably, the "effect of each audience member on a speaker's style design is graded according to role distance". In other words, the degree of accommodation decreases the further away the 'audience' is, thus: addressee > auditor > overhearer (160, 163-67, 170-78). Even more remarkable is Bell's finding that speakers can be shown to accommodate to 'referees', a group of people that a speaker may like to identify with but who are not present, and are therefore an abstract audience type. Such behaviour results in divergence from the present audience and towards the speech of absent referees (Bell 1984: 197). In this connection, Bell asks "does all linguistic divergence result from referee design?", which is an interesting hypothesis.

Here we can point out the link Trudgill makes between situational accommodation and the structural convergence across dialects that is brought about by the

¹⁹ Jakobson also distinguished metalinguistic functions, *explicitly* relating to the code and the way it is being used, but these seem less relevant here.

adoption and spread of dialect features. The first and most important step in this transition is taken once a speaker starts employing a new feature in the absence of speakers of the dialect originally containing that feature (Trudgill 1986: 40).

Thanks to the work of Bell and Trudgill, the continuum from accommodation to dialect levelling that Bloomfield conceived has found empirical support to a certain extent. Bell's 'responsive' style matching, i.e. the accommodation by an individual speaker to a more or less distant audience, can be the short-term form of what in the long run may become 'initiative style-shifting'. This is a necessary step in the adoption of a new feature by an entire dialect or the abandonment of an old feature typical of that dialect. We will attempt to explore this scenario by testing

HYPOTHESIS III

the long-term process of dialect levelling is foreshadowed in accommodation in dialect use

In other words, the interactional, hence short-term phenomenon of accommodation in speech towards people with a different dialect background may lead to the structural focusing process of dialect levelling.

As we said, accommodation and dialect levelling consist of either the adoption of new features or the abandonment of older ones. The first type may result in an expansion of the features in geographical space, the second one may have the reverse effect.

In the existing "evolutionary approaches to human language typology and change", Thomas Markey (1986: 16-17) distinguishes the following three "explanatorily adequate basic epistemologies:

- I. People (as communicative beasts) do things to language systems [...]
- II. Languages *qua* systems do things to people. (The Whorf-Sapir Hypotheses).
- III. Languages *qua* systems have a life of their own apart from people".

The first frame of explanation can be termed the materialistic position, as opposed to position II, which is idealistic in nature. Position III, finally, can be labelled the biologicistic view.²⁰ From the point of view that linguistic systems have a life of their own apart from people, the adoption by a dialect of an exogenous feature as well as the giving up of older features would probably be interpreted as an 'adaptive change' (Markey 1986: 18), which is more or less forced by the contact situation.

One of the shortcomings of the Labovian approach to language variation is that short-term, interactional constraints are not adequately taken into account. In the 'classical' Labovian model, language variation is related to variables of a macro-social or demographic nature, to variables that do *not* change (e.g. sex; year of birth, central

²⁰ Giving explanations of type III may have the result that one is considered by Labov 1972a: 264-70 to be a linguist of "the 'asocial' group"; taking position I may have the result that one is regarded as a member of "the 'social' group" of linguists.

in the apparent time-approach) or at best very slowly (e.g. socio-economical background). It is not convincingly related to variables²¹ of a micro-social kind, i.e. to features of the interactional situation like the linguistic background of the interlocutor or other audience members. One reason for this shortcoming may be the fact that intra-systemic variation is central in this approach. This orientation may have caused a certain disregard for contact phenomena, whether long-term or short-term in nature.

As yet, Trudgill's model seems to be the only one in which an interactionally determined type of language behaviour is related to structural processes such as dialect levelling. Likewise, in our conception dialect levelling is foreshadowed in interactionally motivated variation, in accommodation towards the dialect background of the audience. This accommodation serves to reduce linguistic dissonance; we therefore expect gradually differing extents of accommodation in dialect use depending on the dialect variety spoken by audience members - other things being equal.

1.4 Summary and perspective

Our definition of the notion of dialect levelling is a stipulative rather than a descriptive one, in the sense that it is an agreement or convention on what we mean by that notion (Van den Toorn 1978: 89). The reason why we resort to a stipulative definition is that the essence of the phenomenon referred to by dialect levelling is still unknown.

The present investigation intends to improve this situation. In this first chapter we have attempted to form an image of this unknown phenomenon in terms of what we *do* know. In other words, we have attempted to develop a model of dialect levelling. This part of our study should therefore be seen as explorative. Of course, we limit ourselves to a few of what we think are the most relevant characteristics of the phenomenon (Van den Toorn 1978: 92, 98; Altmann & Grotjahn 1987: 1027).

From our model three hypotheses were derived regarding the supposedly most relevant features of the process of dialect levelling. These hypotheses, and hence our model, will be made empirically testable (Ch. 4). As we saw in § 1.2, the notion of dialect levelling is not new. To our knowledge, however, the question of how the process of dialect levelling can be studied on the basis of synchronic data has not been so far addressed. Our approach to this issue will also be presented in Ch. 4. After having tested this model, we may be in a position to sketch the contours of a theory of dialect levelling (Ch. 12).

²¹ Of course, 'style' cannot be considered as an independent variable *per se*. It is no wonder that the original Labovian style concept has been strongly criticized. Cf. e.g. Bell 1984.

Chapter 2

The phonological model

2.1 Introduction

In the previous chapter we defined dialect levelling as the reduction of structural variation, whether between different dialects or within a single dialect. Aspects of the reduction of inter-systemic variation are addressed by hypotheses I (dialect levelling is a two-dimensional process) and III (dialect levelling is foreshadowed in accommodation). Another aspect of the reduction of inter-systemic variation is referred to in the part of hypothesis II that says that levelling proceeds gradually in geographical space.¹ The levelling of intra-systemic variation is addressed by the part of hypothesis II that says that the process is gradual in structural respects. The intra-systemic, structural aspect will be central in this chapter.

We will concentrate on recent insights into the syllable as a phonological constituent (sections 2.3 and 2.4). Given the abundance of relevant recent literature and in view of the fact that the phonological model is only a subcomponent of our sociolinguistic model, we have not attempted to incorporate the latest positions in the theoretical discussion. We will settle for what is by now more or less generally accepted in generative, especially nonlinear, phonology. Of at least equal importance are

- some of the considerations that led us to incorporate the phonological model (§ 2.2), and
- the considerations regarding the place of this model in our study (section 2.5). With respect to the latter, we will also try to assess the possible relevance of insights into processes of dialect levelling to phonological theory.

In the course of § 2.2 a number of concepts will be discussed which are important in this study. They include 'probabilistic explanation', a notion which plays a crucial role in some now classic sociolinguistic approaches to language variation, 'multicausality', and 'formal explanations' in linguistics.

2.2 Explaining language change

In the first chapter we established that a process of linguistic change that is not completed on some dimension leaves behind structural variation between and/or within varieties. Synchronic variation can, in turn, lead to or be a phase in a process of linguistic change. Dialect levelling is the process of reduction of structural variation.

¹ In § 4.1 we will elaborate on the relationship between the latter claim and hypothesis I.

The question may arise where the new variant in a process of linguistic change comes from if not from another linguistic system through borrowing. What is the origin or cause of the change that gives rise to variation? Why does a process of linguistic change or dialect levelling occur at certain points in the grammar and not at others? Questions of this kind seldom play a role in dialectology and sociolinguistics.

Language is permanently subject to all sorts of forces, pulling and pushing it in different directions. Linguistic change is therefore generally to be considered as a 'multicausality' phenomenon (Dressler 1986: 520). It seems wise of Aitchison (1981: 128) to stress that she uses the word 'cause' "in the common sense of 'partial cause'". Analogously, Trudgill (1986: 154-61) argues for 'multiple causation' with respect to so-called Canadian Raising of the diphthongs /ai/ and /au/ before voiceless obstruents.

Consequently, for specific cases of linguistic change, or dialect levelling for that matter, single linguistic or extralinguistic factors can provide at best highly probable explanations.

The inventory of possibly relevant single explanatory factors, especially in the case of phonological change, plus the conceivable interactions of these factors, can be quite large. Moreover, it is difficult to imagine that all relevant factors and the possible interactions between them would be stable. Therefore language history resembles chaos in the modern physical sense. This makes it difficult and in not a few cases probably fundamentally impossible to identify a certain cause (cf. Koelmans 1979: 58).

This insight, reflected in Jaberg's often cited claim that in reality each word has its own particular history, led to an almost complete explanatory and theoretical resignation in dialectology and sociolinguistics.² However, there seems no *a priori* reason for sociolinguistics to be mainly a method, or set of techniques. If one intends to be "not merely a sociologist looking at language, [... one's] work must be based on linguistic theory, not merely on manipulations of language data" (DeCamp 1970: 157-58). In the same paper, DeCamp states: "The history of sociolinguistics, including dialectology, is largely a series of technological innovations" (158), and in Muysken's (1984) opinion fourteen years later the situation had not changed much.

Theories to explain the origin(s) of change have been elaborated neither in sociolinguistics nor in dialectology, and where they have, have not gained ground. It must, however, be noted that a certain imbalance between theory and data appears to be a characteristic of present-day linguistics in general. In some branches it frequently seems almost only data that count, at the expense of theoretical reflection, whereas other branches are top-heavy on the theoretical side, sometimes relying on little, or even only anecdotal empirical evidence.

To return to the question of explaining linguistic change: apart from
 - the origin ('actuation'),
 in connection with linguistic change at least two other aspects can be distinguished:

² Compare Markey 1981: 24, 25; Harris 1988: 228.

- the dissemination or spread in structural ('transition'), stylistic, social and geographical space ('embedding'), and
- the evaluation of the new variant in the community of speakers.

Except for 'innovation ex nihilo' and borrowing, Coseriu (1958: Ch. III, §§ 3 and 4) mentions four types of causes for the actuation of linguistic change. All four are structural in nature. Similarly, Grosse (1982: 309, cf. also Grosse & Neubert 1982: 183-84) ascribes the onset of linguistic change to structural relations - and its dissemination and evaluation to social processes. In Coseriu's view the 'adoption', i.e. the dissemination of an innovation through the language and the speech community, is the essence of linguistic change - as it was for Hermann Paul (1880: 63).

In the Neogrammarian school of historical linguistics considerably more attention was paid to the 'actuation riddle' than in later years in dialectology and sociolinguistics, where it is mainly the spread of change that is studied. Especially sociolinguists seldom if ever consider the onset of processes of linguistic change (cf. Bickerton 1975: 184; Moosmüller 1987: 69-70). Admittedly, "it can be difficult to distinguish diffusion from independent creation and to determine the true direction of change"³, but sociolinguists hardly ever try to detect how formal principles⁴ may explain internally motivated processes of change that give rise to structural variation.

In line with the second hypothesis derived from our sociolinguistic model, we will investigate the significance of extralinguistic as well as linguistic factors to processes of dialect levelling. The main reason for this is the fact that such processes come about through dialect use, which in turn is for a major part determined by linguistic factors. Like every empirical model, our model of dialect levelling should enable us to make predictions - also regarding the intra-systemic route of the process.

It is our intention to implement theoretical insights regarding the syllable as a phonological constituent in our investigation. We will use this model to explain the *raison d'être* of relevant dialect features and to predict the structural path of processes of dialect levelling.

2.3 The phonological model

2.3.1 Introduction: the modular organization of phonology

The linguistic theory guiding much of this investigation is the generative paradigm, specifically more recent phonological models of the syllable. In our view, one of the

³ Rickford 1990: 273. Cf. § 1.3.1 above.

⁴ Cf. De Saussure's definition of language as "une forme, non une substance". With the notion 'forme' De Saussure referred to the structure of the relations holding between linguistic elements (Siertsema 1980: 196-98).

most convincing aspects of the generative theory is the assumption that the structure of human language reflects the structure of the human mind. To be more precise, the assumption is more general in that it claims that the structure of human language reflects the possibilities of both the mental and the physical organs involved in language use, even though these are not always mirrored in linguistic surface structure.

The model of generative phonology rests upon what may be called an 'item, arrangement and process' model. In this approach an item (a segment or a morpheme) or a well-formed arrangement of items undergoes a series of phonological, morphological and prosodic processes on its way to acquiring its surface, phonetic form. This general format, specifically the distinction between underlying and surface form, has not met any serious challenge since it was proposed in 1968 by Chomsky and Halle in *The sound pattern of English*, commonly abbreviated as *SPE*. Many other things did change, however.

Most of the changes in the field can be characterized as elaborations and modifications. As a result, more recent phonological models propose a division of labour among a small set of mutually related modules, "a set of interacting subsystems, each governed by its own principles" (Nespor & Vogel 1986: 1). Broadly speaking, the study of several aspects of the item has led to the development of the so-called nonlinear approaches, whereas processes are the research object of what has become known as lexical phonology. In nonlinear phonology the item is seen as a multidimensional structure. Attention is focused on the lexical representation of an item and the several successive shapes it takes as a consequence of the processes it undergoes. At the same time these representational aspects account for the way the processes operate. In this twin connection, segmental as well as sub- and suprasegmental aspects are studied. The derivational 'path', i.e. the processes as such and the intertwining of phonological, morphological and syntactic rules is studied in lexical phonology (Kiparsky 1982).

The modular organization of phonology is typical of the generative view on grammar in general. On this view, modularity is an important characteristic of the human language faculty.

2.3.2 Lexical and prosodic phonology

The designation lexical phonology indicates that the derivation of (different aspects of) sound structure is no longer seen as taking place in one separate, 'late' component of the grammar. Phonological derivation is nowadays generally conceived as divided over two components.

In the earliest, lexical component, lexical representations may undergo morphological operations. These representations are retrieved from a list containing all underived lexical items plus their phonological, grammatical and semantical idiosyncrasies. The phonological characteristics include the sound-shape, that is, the segmen-

tal make-up. In addition, in conformity with the 'lexicalist hypothesis', the list contains morphologically complex words which behave in an unpredictable way.

Apart from the list, the lexicon contains the complete inventory of word formation rules (Booij 1981: 102). Once retrieved from the list, the lexical representations may undergo morphological operations. Morphological operations interact with the lexical or cyclic phonological rules. Some models also allow for a non-cyclic set of lexical rules, the so-called postcyclic phonological rules.⁵

The output of the lexical component (or 'word grammar' - Booij 1981: 102), passes through the syntactic and phonological components. In the phonological component, the postlexical rules operate, resulting in the phonetic string. In other words, the output of the syntactic component is interpreted phonologically, i.e. 'translated' into sound.

Some proposals explicitly distinguish strata both in the lexical and in the postlexical component; the domain of application of every phonological rule is specified in terms of strata. Instead of these strata, Booij & Rubach (1987) distinguish cyclic and postcyclic lexical, as well as postlexical blocks of rules. However this may be, the distinction between lexical and postlexical phenomena can be interpreted as a partial rehabilitation of the division between morphophonology and phonology (Wester & Wetzels 1986: 94).

Postlexical rules usually⁶ operate on words or units bigger than the word, and are independent of morpheme structure. It is not uncommon for postlexical rules to be variable; at the same time, variable phonological rules often apply postlexically. The domain of application of especially postlexical rules frequently consists of prosodic rather than grammatical units.⁷ Prosodic categories form a hierarchy. This hierarchy includes the syllable, the foot, the phonological word, the clitic group, the phonological phrase and the intonational phrase. Prosodic categories do not overlap; lower categories form the constituents of the one that immediately dominates them (the 'strict layer hypothesis'). Cf. (3) below.

There is some disagreement as to whether the 'clitic group' should be distinguished as a separate prosodic level; we will return to this in § 8.4.

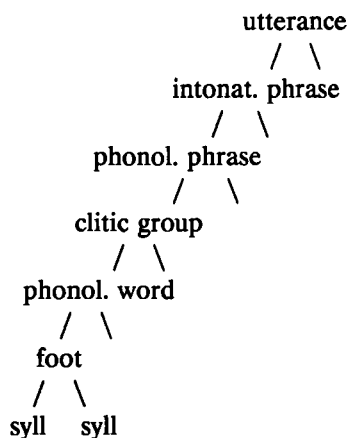
The key task of prosodic phonology is to transform morpho-syntactic structure into prosodic categories (by means of a small set of mapping rules - Nespor & Vogel 1986: 301). The resulting prosodic categories form the purely phonological domains of application of phonological rules, especially though not exclusively of postlexical ones.

⁵ Van der Hulst & Smith 1985: 5; this model was further elaborated by Booij & Rubach 1987.

⁶ But not always - witness, for example, the data discussed in Booij 1988.

⁷ Although there are prosodically motivated morphological operations; see Wiese 1992 for three examples from German.

(3)



So, whereas lexical phonology deals with the organization of processes, especially with the intertwining of phonological and morphological rules, prosodic phonology is concerned with the demarcation of the domain of application of phonological processes.

2.3.3 Autosegmental phonology

While lexical phonology is geared to the rule system and the "interaction between the phonological system and other modules of grammar" (Gussmann 1988: 233), the nonlinear branch of generative phonology concentrates upon aspects of phonological representation. There are two fields of interest in nonlinear phonology, each of which is central in a separate 'sub-branch': a segment-internal and a segment-external structure (Van der Hulst & Van Lit 1987: 165). The activities in these sub-branches are generally seen partly as correcting, partly as complementing Chomsky & Halle's standard theory, which has been characterized as 'atomistic' (Berendsen et al. 1984: 87, 91) for its almost exclusive concentration upon segments and, particularly, distinctive features.

Segment-internal structure is central in autosegmental phonology. The 'early' theoretical concept of the linear organization of phonological segments, represented as a sequence of matrices containing unordered sets of binary features, has been severely undermined. In the modern view, if, in a language or language variety, individual feature values are shared by several contiguous segments, those features may be considered as functionally autonomous⁸, hence as autosegments. In a formal representation, a value for an autosegment descends from its autosegmental 'tier'. In such a

⁸ This insight can also be found in Firth (Siertsema 1980: 208) and other linguists of the 'London school'.

representation, autosegmental tiers may be associated with the abstract skeleton of so-called timing slots; these skeletal positions are represented symbolically by Xs or by abstract Cs and Vs. The association is not necessarily of a one-to-one character, as was the case in the older approach, through the so-called Bijectivity Constraint.⁹ Rather, an autosegment may have a wide scope, namely when it is associated with more than one timing slot, through a mechanism called spreading - see (4a)

- (4a) autosegment F assigns feature value $[+F]$
to timing positions $\begin{array}{c} / \quad \backslash \\ X \quad X \end{array}$

or it may have narrow scope, namely when a timing slot is associated with more than one value for that autosegment, as in (4b)

- (4b) $\begin{array}{cc} [+F] & [-F] \\ \backslash & / \\ & X \end{array}$

Well-formedness precludes, however, the crossing of association lines.

An autosegmental approach provides elegant solutions to matters that constituted problems to older views. A classic one was the question whether or not diphthongs and affricates should be considered as one or, rather, as two segments. In older models several solutions were proposed for the fact that the behaviour of such segments¹⁰ can point into either direction. For instance, Booij (1981: 32-34) provided the three diphthongs of standard Dutch with the features $[\pm \text{high}, \pm \text{mid}]$. For affricates a feature $[+\text{delayed release}]$ was used.¹¹ The relative autonomy of features in the autosegmental approach, in combination with the principle that there is not necessarily a one-to-one relationship between the autosegments and the skeletal positions, solves the questions regarding diphthongs and affricates, or regarding complex segments generally. In connection with affricates, Halle & Clements (1983: 14) propose that "one way of expressing the fact that these sounds behave as single segments with regard to the distributional rules of English even though they are phonetically complex is to represent the feature 'continuant', which distinguishes stops from fricatives, on a single tier". In this case from the continuant tier, the features $[+\text{cont}]$ and $[-\text{cont}]$ respectively are associated with one single position on the skeletal 'CV' or 'X' tier. Visually:¹²

⁹ Poser, as summarized in Sezer & Wetzels 1986: 1 ff.; Wester & Wetzels 1986: 93.

¹⁰ For German some of the problems regarding diphthongs were summarized by Klocke 1982: 16-18.

¹¹ E.g. in Schane 1973: 28-29, and for /tʃ/ in German in Klocke 1982: 42-45. A short discussion of the affricate problem can be found in Wiese 1986: 3-4, among others.

¹² Adapted version of Halle & Clements 1983: 14.

(5)	stop:	fricative:	affricate:
continuant tier	-c	+c	-c +c
			\ /
skeletal tier	X	X	X
other features	t	ʃ	tʃ
		s	ts

The other features which descend from 'phonetic' tiers form part of the so-called segmental tier. They constitute the melodic dimension, which refers to segment quality. The features on the segmental tier are associated with the timing slots of the affricates through just one value. Other complex segments, such as so-called prenasalized stops of the type /mb/ and /ŋk/, not uncommon in certain African languages (e.g. in the name 'Joshua Nkomo'), can be represented likewise. Diphthongs as well as long segments are represented similarly; long vowels as well as geminate consonants occupy two timing positions.¹³ In autosegmental phonology 'long' segments have two timing positions, both linked to the same melodic content. In such an approach, features like [long] are superfluous.

The representations in (5) are simplified; the features on the melodic tier, which are associated with a timing slot on the skeletal tier, do not 'enter' the representation as a bundle of mutually unorganized characteristics. Clements (1985) proposed to treat the universal inventory of features as hierarchically ordered via mediatory articulatory 'class tiers'. Hence not all autosegments are directly associated with the skeletal tier. In Clements' proposal it is no longer the case "that any two features characterizing a segment are as closely (or as distantly) related as any two others." Rather, features are structured into hierarchically organized units. A major distinction is that between laryngeal and supralaryngeal features; among the former are features such as [\pm voice], whereas the latter contain manner and place features. In more recent proposals, for instance, there is a place 'node' which branches minimally into [labial], [coronal] and [dorsal], each of which in turn dominates a small cluster of specific features.

The grouping together of sets of features makes it possible for them "to behave as a functional unit with regard to rules of deletion, assimilation, and so forth" (Clements 1985: 1, 3), in short with regard to processes for which it is rather common to affect more than one specific feature. It will be clear that Clements' proposal meets the objection from the sociolinguistic quarter that working with (mutually unordered) distinctive features divides phonological space into as many independent dimensions as there are features, thus hampering, for instance, the description of connected

¹³ In more recent models long segments on the one hand and diphthongs and complex segments on the other are represented differently (cf. e.g. Wetzels 1990: 140-41). We will not consider those proposals here.

changes in the periphery of the vowel trapezium (Weinreich, Labov and Herzog 1968: 149, paraphrased in Muhr 1981: 22). As features enter a phonological representation organized under class tiers, in the autosegmental model phonological processes can be treated in terms of several levels or tiers, each of which may independently undergo rules (Smith 1980: 94).

As will be clear by now, phonological representations are no longer treated as flat, unidimensional strings of segments and boundary symbols¹⁴, hence the designation 'nonlinear' or 'multilinear'. Apart from the organization of features, there are also other topics of discussion in the autosegmental approach.¹⁵ One is whether or not timing units are inherently differentiated as Vs and Cs. Another question concerns rules. Although autosegmental theory is not only a matter of representations, in the sense that several rule types can be seen as specific constellations of primitive operations like dissociation, reassociation, spreading and the like, some efforts are directed at eliminating what is known as the transformational rule format (Sezer & Wetzels 1986: 7). Also the binary character of the features, to give another example, is no longer as self-evident as it seemed in *SPE*. In the context of underspecification theory, some features are unary rather than binary (cf. also Ewen & Van der Hulst 1987), a rehabilitation of the privative opposition of Prague School phonology. Other features may be multi-valued. On the basis of their value for a certain non-primitive, multi-valued feature, segments can be seen as hierarchically organized within the syllable. In § 2.3.6 we will return to this issue. Representations in which syllables and morphemes are placed on separate tiers make important parts of the aforementioned 'double articulation' of language insightful and manageable. In such representations the skeletal tier of timing slots "constitutes the interface between the (morpho)syntactic hierarchical structure and a phonological hierarchical structure. [...] Autosegmental association can in principle be bound to any domain that the theory defines" (Van der Hulst & Smith 1985: 6, 10), whether this domain is phonologically, i.e. prosodically, or morpho-syntactically defined.

2.3.4 Metrical phonology

Segment-external aspects of sound structure are the subject of metrical phonology. Relevant are among other things syllable weight and related prosodic phenomena such as foot formation and stress (at the word level), rhythm and intonation (at higher grammatical and prosodic levels). In older generative approaches, stress constituted a multi-valued feature, but its configurationally determined character was not captured.

¹⁴ As if they had "the form of linear concatenations of phonemes, in much the same sense that written English consists of concatenations of letters", as Halle & Clements 1983: 11 express it. Grammatical boundary symbols, a device used in *SPE*, are no longer needed.

¹⁵ See e.g. Wester & Wetzels 1986: 101-102 for a brief overview of topics for further research in both branches of nonlinear phonology.

A higher-level prosodic phenomenon like intonation did not receive substantial attention. This situation has changed profoundly.

The relationships between the several metrical phenomena, i.e. between those parts of the phonological constituent structure that are based on prominence, have also been proven to be best treated nonlinearly. Metrical constituent structure is nowadays seen as hierarchically organized. Each level in the hierarchy can be described by way of so-called metrical trees, which are binary branching. Whatever the level, within each single constituent, one daughter is relatively strong with respect to her sister:

$$(6a) \quad \begin{array}{c} \diagup \quad \diagdown \\ S \quad W \end{array} \quad \text{or} \quad (b) \quad \begin{array}{c} \diagup \quad \diagdown \\ W \quad S \end{array}$$

Left-node dominance, as in (6a), or right-node dominance, (6b), is one of the handful parameters¹⁶ with which, it is claimed, each of the multitude of stress assignment systems in natural languages can be defined.

The relationship between linear and metrical phonology can be illuminated by comparing it to the relationship between the parsing in grammatical categories of all single words in a sentence and the syntactic analysis of that sentence, respectively (Berendsen et al. 1984: 91-92).

2.3.5 Relationships between the autosegmental and metrical subsystems

In the research practice the two types of nonlinear phonology are frequently interrelated. The overall model of phonological representation usually encompasses information of both the autosegmental and the metrical type. The skeleton of timing positions, which forms the basic dimension, indicates the quantitative characteristics of segments, whereas on the melodic dimension segment quality is stored. On the prosodic dimension, finally, matters like syllabification, stress and intonation are represented.

Two diphthongs of the St. Kitts-Nevis creole language

As a simple illustration of the interrelatedness of quantitative, qualitative and relative prosodic properties of segments, let us consider our solution to two specific problems Trudgill (1986: 89-90) raised but did not solve. These problems concern developments in the vocalism of the English-based creole system spoken on the islands St. Kitts and Nevis in the Caribbean, to the southeast of Puerto Rico and the Virgin Islands. For

¹⁶ The *auctor intellectualis* of an important part of this framework is Bruce Hayes. Brief introductory summaries can be found in e.g. Halle & Clements 1983: 16-21 and Zonneveld 1986: 343.

the English diphthongs (or diphthongal glides) /ei/, as in RP *face*, and /ou/, as in RP *boat*, the continua are:¹⁷

(7)	continuum	basilect	mesolect	acrolect	RP
		ia	ie	ee	ei
	*	ia	ie	<i>ii</i>	ei
	*	ia	<i>ea</i>	ee	ei
		ua	uo	oo	ou
	*	ua	uo	<i>uu</i>	ou
	*	ua	<i>oa</i>	oo	ou

The questions Trudgill was unable to answer are: why are the acrolectal *casu quo* mesolectal (Trudgill: 'intermediate') variants not *ii* and *uu* c.q. *ea* and *oa*? Of course, incidentally, factors like the avoidance of 'homonymic clash' (Trudgill 1986: 90) may have been at work, but the fact that homonymy would have resulted only in a few cases indicates that such an explanation can at best be secondary.

Our answers to both questions are identical and relate to prominence. In the RP diphthongal variants the most prominent segmental part is the first one ('falling diphthongs'), viz. *e* c.q. *o*. This explains why the acrolectal variants are *ee* and *oo* rather than *ii* and *uu*. Conversely, the most prominent segment in the basilectal diphthongs¹⁸ is again the first one. This is why it is not the first segment that is reduced in the development of the mesolectal variants (hence not *ea* c.q. *oa*), but the relatively unstressed second one (resulting in *ie* c.q. *uo*). Quantitatively each segment remains stable throughout the continuum, i.e. the timing structure is preserved. Also, the relative prominence of the melodies associated with the two timing slots underlying each of these segments remains stable.

Tone and pitch accent

The analysis of the various tone systems found in natural languages reveals a range of possibilities regarding the relationship between specific phenomena in several phonological dimensions. In many recent studies of tone, the two types of nonlinear phonology are interrelated; autosegmental analyses have benefited from taking explicit account is taken of metrical information.

In tone languages, lexical items are distinguished not only by segmental contrasts but also by pitch or 'tone'. Hence, these languages employ pitch distinctions within the word - in contrast to languages such as English or Dutch, which only have pitch

¹⁷ Transcription symbols as used by Trudgill; the schematical representation was made by the present author.

¹⁸ Assuming that in the basilect they are falling diphthongs as well, on which point Trudgill 1986 provides no information.

distinctions extended over larger stretches of an utterance.¹⁹ In a tone language, each syllable may bear distinctive tone. Certain tone languages have two tone or pitch levels, namely High and Low, whereas others also have a Mid level. A present issue of investigation is the number of tone levels a given language may distinguish. These pitch levels or tones occur either in isolation (register tone) or in combination (contour tone) in the realization of a syllable.

As was pointed out, languages like English and Dutch only have pitch distinctions over units larger than the word. Such languages have merely intonational pitch accent. The latter situation is typical of what is usually referred to as stress accent systems, systems with what is traditionally called dynamic accent.

Far from being the only two possibilities, tone systems and intonational pitch accent systems are the endpoints of a continuum. Somewhere on this continuum, so-called pitch accent systems are located; traditionally, pitch accent is referred to as melodic accent. A common trait of intonational pitch accent systems and (one type of) word-internal pitch accent systems is that they both show a relation between tone assignment and stressed syllables.

Generally, tone languages can be typified according to whether or not they display an interaction between tone and lexical stress. If there is no interaction, this may be due either to the absence of stress as a phonological property in the language or simply to the fact that tone and stress operate independently of each other. If tone and lexical stress do interact, two scenarios are possible: either stress assignment depends on tone or vice versa. The latter is the case in pitch accent systems, already mentioned. Pitch accent systems combine characteristics of stress accent systems and tone systems. Just as words in a stress language may have only one peak of prominence, pitch accent systems are not allowed to have more than one pitch drop in each word. On the other hand, in pitch accent systems pitch contrast is used contrastively, just as in tone languages (cf. Katamba 1989: 208-10). For this reason, pitch accent systems fit into Welmers' broad definition: "A tone language is a language in which both pitch phonemes and segmental phonemes enter into the composition of at least *some morphemes*" (quoted in Van der Hulst & Smith 1988: x - my italics, FH).

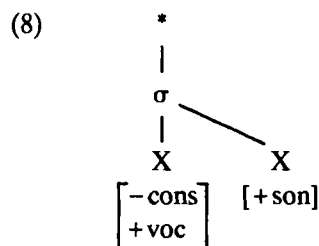
Most Limburg dialects of Dutch are pitch accent systems. In Limburg dialects only two contrastive contour tones occur, and only under specific conditions. These dialects can therefore be said to make restricted use of tone. As restricted tone languages, Limburg dialects form part of a cluster of Rhenish dialects, to which also certain geographically contiguous dialects of German belong.

As was demonstrated by Hermans (1984: 55), in Limburg dialects tone contours only occur in stressed syllables. J. Schmidt (1986) is a study of tone contour in the so-called Mittelfränkische (Middle-Franconian) dialects of German. These dialects, like the Limburg ones, form part of what we referred to as the cluster of Rhenish pitch

¹⁹ Very much of what follows is based on Van der Hulst & Smith 1988.

accent dialects with distinctive tone contour. For the Middle-Franconian dialects he investigated, Schmidt established that the realization of a tone contour requires the syllable to be stressed: on the word level, it must bear primary stress. However, if the relevant word is not sufficiently stressed on some higher level, the tone contour cannot be realized (J. Schmidt 1986: 127, 137). So whereas in a 'real' tone language, each syllable may bear tone, in the dialects that form part of the Rhenish cluster, the occurrence of tone is restricted to stressed syllables. Stress thus serves as an anchor point for tone.

However, not every stressed syllable will do. Apart from the metrical condition, there is also a segmental one. As both Hermans and J. Schmidt²⁰ point out, the syllable should contain either a diphthong or a long vowel or a short vowel followed by a tautosyllabic sonorant consonant. If both conditions are met, a tone contour can be realized. Our formalization is given in (8):



Hermans' analysis follows the autosegmental practice to represent tone on a separate tier. In his interpretation the two tone contours are represented on the tone tier as a High tone followed by a Low one, and a three-tone sequence High-Low-High, respectively. The last High tone in the latter contour (HLH) is either lexically present or 'base-generated' by a phonological default rule.²¹ In both cases it is floating, i.e. the H segment on the tone tier is not associated with the skeletal tier. The High-Low sequence is inserted if segmental and metrical conditions are both met. In that case, after association HLH results if a High tone was already present; if not, the syllable is realized with a HL contour (from HL, inserted, + H, which was already there). This means that the tone contour can only be distinctive if a High tone is lexically present; the words in which it is generated by the phonological default rule never occur with HL, since the H-generating rule applies automatically. So, contrast in tone contour is not only restricted metrically and segmentally, but also lexically.

²⁰ Hermans 1984: 49; J. Schmidt 1986: 134, 190.

²¹ "Western European pitch accent systems" typically have an "opposition between H-marked and unmarked morphemes" (Van der Hulst & Smith 1988: xx). As far as Limburg dialects are concerned, in cases where the H is not lexically present, its presence results from the application of the rule for H-insertion, which operates in syllables containing a short vowel followed by a sonorant consonant and a stop, as in *ramp* 'disaster', *kind* 'child', etc. (Hermans 1984: 59).

In the dialects of the Rhenish cluster, including the Limburg ones, tone contour can be distinctive in two respects: lexically and morphologically. The tone contour is lexically distinctive in a considerable number of cases. Some examples are²²:

- (9a) dù 'then' adv.
 dû: 'you' T pers. pron.
- bô[˥]u '(I) build' Vfin.
 bô[˥]:u 'building' N
- mù.[˩]R 'wall'
 mǔ:[˩]R 'carrot'
- àl 'wet manure'
 ă:l 'everything' pron.

In the vast majority of minimal pairs, at least one member of the pair is a content word. In such words stress and thus the phonetic realization of the tone contour is guaranteed. This is not the case with the rare instances where both words involved are function words (e.g. in the first example in (9a) above). Since such words do not necessarily receive stress, the tone contour may not show up phonetically. However, in such cases it is almost always the context which has a disambiguating effect. If stressed, pairs of words such as those in (9a) differ only in tone contour. Incidentally, this difference is pronounced enough for the words not to rhyme (cf. Hardt, quoted in J. Schmidt 1986: 54).

Morphologically, in these dialects tone contour is distinctive with respect to grammatical number in a group of nouns, e.g.

- (9b) è[˩]R[˩]m 'arms' plur.
 ẽ[˩]R[˩]m 'arm' sing.
- dàx 'days' plur.
 dǎ:x 'day' sing.

Since HLH versus HL invariably marks singular versus plural we can regard tone contour as a non-concatenative, metrical morpheme. The fact that HLH marks singular is not surprising in the light of the assumptions (i) that the H is lexically present and (ii) that the lexical representation of a noun consists of the nominative singular form. Under this account, the lexical H is deleted in the formation of the

²² We use diacritics instead of the symbols for the level tones H and L. A grave accent, as in /ù/, stands for HL, while a circumflex accent, as in /û/, signifies HLH.

plural form; the HL contour results from Hermans' (1984) automatic insertion rule, sketched above.

Whereas in Limburg dialects the morphological function of the contrast in tone contour is limited to marking of number in nouns, in the Middle-Franconian dialects described by J. Schmidt (1986: 25-26, 54, 136), it is also used to express case. Remarkably, in all relevant examples presented by Schmidt, the nominative form invariably has HLH; the contour HL marks other cases.

Whatever the degree to which it is exploited grammatically or lexically, also in these pitch accent systems tone (contour) can best be understood if the tone segments are represented on a separate tier. The segments on the tone tier are associated if and only if the segmental and metrical conditions are met.

One could think of a slightly different approach than the one sketched above. Central in this alternative is the assumption that stress assignment implies the assignment of a High tone, provided the segmental make-up of the syllable allows this. To avoid that morphemes which already have a High tone (either in their lexical representation or as a result of the default phonological rule) show up with an HH pattern, the Obligatory Contour Principle, which is an independently motivated principle of phonology, inserts a Low tone, thus changing the 'ill-formed' HH into HLH. In this scenario the tone contour HL results from a phonetic L-affixing rule.

In section 8.4 we will return to the issue of tone contour in connection with a variable postlexical rule of certain Limburg dialects.

2.4 The hierarchical organization of syllable structure

2.4.1 Introduction: a few historiographical remarks

The structural unit of shared interest to both branches of nonlinear phonology is the syllable, defined by Rietveld (1983: 251 cf. also 81) as the phonetic "unit with maximum cohesion". In autosegmental approaches it is usually assigned a separate tier. An important difference between the syllable tier and other autosegmental tiers is that the 'membership' of a certain syllable is not an inherent property of a segment (cf. Wester & Wetzels 1986: 94; Sezer & Wetzels 1986: 3). These authors call what they refer to as 'syllable theory' "an interesting extension of the autosegmental theory" (2). The syllable is also a fundamental category in metrical analyses of stress and rhythm. It forms an important level in the hierarchy of prosodic categories, presented in (3) above, each of which may constitute the domain of phonological rules. In the preceding subsections we saw that the syllable plays a crucial part in connection with tone.

The role attributed to the syllable is one of the essential differences between present-day generative phonology and the earliest endeavours, although it already received considerable attention in Vennemann's (1972) and Hooper's (1976: part II) linear natural generative proposals. In Chomsky & Halle's conception the syllable was more or less assigned the role of a marginal phonetic entity; instead, the morpheme was considered as the domain within which phonotactic constraints should be stated. These morpheme structure constraints functioned (just as those concerning syllable structure in more recent approaches) as redundancy conditions operating upon the sequence of segments in the 'raw' output of the lexicon.

This is not to say that the syllable has been discovered by nonlinear phonology, however. It was acknowledged as a structural entity in older linguistic approaches. A comprehensive overview of general linguistic insights concerning the syllable within the structuralistic approach is e.g. De Groot (1963: 199-207 and, thereafter on stress and tone, 208-20). After Chomsky & Halle's neglecting and natural generative phonology rediscovering the syllable, nonlinear elaborations of the earliest generative model energetically resumed research into its place within phonology.

Nowadays the syllable, symbolized as σ , is considered as a constituent of paramount importance, on the basis of solid phonological evidence. Two major items in syllable theory are syllabification and well-formedness. The directionality of association of segments to the σ -node (Kaye & Lowenstamm 1979: 306-11), i.e. the parsing of a string of segments into syllables, and the domain, the grammatical or prosodic scope with which the algorithm operates in the string, are parameters regarding syllabification. We will concentrate upon the second issue, syllable well-formedness.

2.4.2 Syllable well-formedness

Possibilities and limitations regarding sequences of segments (much in the sense of Kiparsky 1972 with respect to the morpheme) turn out to be determined for a major part by the syllable. The structure of a well-formed syllable in turn is mainly defined universally, and to a much lesser extent language-specifically. Phonotactic rules concerning the succession of segments within a syllable are thus to a high degree subject to a set of metarules. Some of these metarules pertain to the distribution of sonority over the syllable. In this connection the syllable could be looked upon as the syntagm. Sonority, not to be confused with the feature [sonorant], which distinguishes obstruents [-son] from all other segments [+son], is a nearly language-independent relative quality of segments (Clements 1987: 12-13). The degree of sonority defines the paradigms relevant to this model of syllable structure. The distribution of sonority over a syllable is not flat; this insight seems to be expressed in the notion of 'silbenberg', lit. syllable-mount, as used by Van Ginneken (1917: 199-218).

It should be stressed that the distribution of sonority over the syllable is a well-formedness condition. The processes ('rules') that this principle of arrangement may

define are therefore not to be considered as generative rules *strictu sensu* (cf. Tropic 1983-I: 216).

2.4.3 The sonority concept

The concept of 'sonority' is not new, nor is it wholly undisputed. According to Wirth-Van Wijk (referred to in Van Hout 1987: 9) it was discussed already "in one of the oldest Dutch grammars, 'De Spreeckkonst' by Petrus Montanus, published in 1635". It has been discussed by de Saussure, Sievers and Jespersen (all mentioned by Tropic 1983-I: 211), as well as by Bloomfield (1933: 120-21), among others. It is quite remarkable, though, that its definition has remained so vague.

Some of the phonetic parameters that have been mentioned with respect to sonority are

- articulatory in nature, like degree of openness²³, and some are
- auditory in nature, such as
 - the idea that "in any succession of sounds, some strike the ear more forcibly than others" (Bloomfield 1933: 120);
 - loudness (Bloomfield *ibid*);
 - far-reachingness ('ver-dragendheid' - Zwaardemaker & Eijkman referred to by Rietveld 1983: 57);
 - prominence (Tropic 1983-I: 211);
 - piercingness ('doordringendheid' - Booij 1981: 89);
 - inherent richness of sound ('inhärente Schallfülle' - Tropic 1983-I: 211; Wiese 1986: 10), or
- both, e.g. "specific strength of differing sounds, depending on the degree of openness of the mouth" (Bussmann 1983: 467 - my translation, FH), whereas
- still others may be hard to classify phonetically:
 - vowel affinity (Hooper 1976) is a case in point;
 - sonority is assumed to be very similar to (Hooper 1976: 203) or even identical with (Scheutz 1985a: 93-94) 'strength-scales' (as developed by e.g. Foley 1970; Vennemann 1972), although in these proposals vowels and consonants are represented on separate and, what is more, with regard to directionality opposite, scales.

Hooper (1976: 198) does not assume a direct correlation between the strength of a segment and any single physical property of speech. After a critical discussion in which he proposes to avoid the use of this notion, Rietveld (1983: 59) stipulates, following Price, that most probably the sonority concept is rooted in several phonetic parameters²⁴.

²³ Booij 1981: 89. According to Rietveld 1983: 59, de Saussure mentioned this parameter with respect to syllabification.

²⁴ Cf. Clements 1987: 13. Price's conclusion is also mentioned by Tropic 1983-I: 211.

Not surprisingly, the sonority scales that have been proposed show differing degrees of detail. Abstracting away from the specific languages described in a part of the relevant literature yields a scale like the following:

(10)	sonority:	highest:	vowels: open
			vowels: closed
			glides
			liquids: r
			liquids: l
			nasals: n
			nasals: m
			obstruents: voiced fricatives
			obstruents: voiceless fricatives
			obstruents: voiced stops
			obstruents: voiceless stops
		lowest	

- re vowels: the distinction between open and closed in e.g. Bloomfield 1933: 120-121; Bussmann 1983: 467; Wiese 1986: 10. According to Kiparsky (1979: 432) for vowels and glides sonority decreases thus: a, e, o, i, u, j, w.

- re liquids: Kiparsky 1972: 432; Van der Hulst 1984: 93; Wiese 1986: 10; Hall 1992.

- re nasals: Van der Hulst 1984: 93.

- re obstruents: Bloomfield 1933: 120-121; Kiparsky 1979: 432; Booij 1981: 89; Tropic 1983-I: 214; Scheutz 1985: 94; Van der Hulst & Smith 1985: 40; Wiese 1986: 10 and Gilbers 1989: 49 all distinguish stops from fricatives. Bloomfield 1933; Vennemann 1972 and Scheutz 1985a: 94 distinguish voiceless from voiced.

A comprehensive overview of several proposals considering sonority is provided by Clements (1987). That part of (10) which most phonologists agree upon, viz.

Obstruents < Nasals < Liquids < Glides < Vowels,
is phonologically expressed by Clements with the ranking in (11) of what he takes to be the Major Class Features.²⁵

From the system of major class features in (11) Clements derives five sonority levels. It will be clear that in such a model sonority is a non-primitive feature.

²⁵ Cf. (6) on p. 292 in the final, printed version of the paper. The question which features are to be considered Major Class Features seems (a) to form an inexhaustible source of disagreement (b) to be theory-dependent to a certain extent. Schane 1973: 26-28, Trommelen & Zonneveld 1979: 25-26 and Booij 1981: 28-29 take [cons, son, syll] as major class features; Kloeke 1982 discusses the significance of positing [syll] as a major class feature. In Clements' proposal [approx] is not unproblematical, as the author admits (16 ff.).

(11) sonority (Clements 1987: 15 = 1990: 292):

	O	N	L	G	V
syllabic	-	-	-	-	+
vocoid	-	-	-	+	+
approximant	-	-	+	+	+
sonorant	-	+	+	+	+
rank	0	1	2	3	4

2.4.4 The distribution of sonority over the syllable

So far we have dealt with the paradigmatic axis. How about the syntagmatic dimension? To what extent is the multi-valued feature sonority useful in detecting regularities with regard to the sequencing of segments within the syllable?

It has been frequently observed that

- (a) all languages have syllables containing a vowel, and that
- (b) the majority of languages only allow syllables containing a vowel; some languages, however, sometimes allow other segments, often nasals, sometimes liquids, to form syllables. Czech is a case in point, and a famous example is the sentence

- (12) strč prst skrs krk
 'put your finger into your throat'

Likewise, German as well as certain Saxon dialects of Dutch (which are spoken in the northeast of the country) allow the plural- and infinitive-suffix /N/ to appear syllabically²⁶, where other dialects, including standard Dutch, have /ən/ or /ə/.

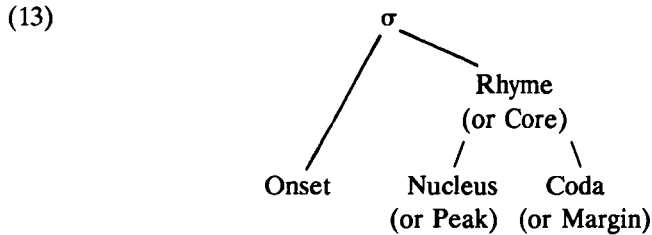
In the overwhelming majority of cases, however, the 'nucleus' of a syllable is a vowel. All in all we may conclude that syllables are constructed -so to speak- around a [+syllabic] element. Languages may differ

- with respect to what segments may be syllabic (cf. Bloomfield 1933: 121), and
- regarding the possibilities and limitations with respect to the environments to the left and right of the nucleus.

However, one regularity seems to hold quite generally: the right-hand environment, if there is one, shows a greater coherence with the nuclear segment than the left one.

²⁶ In Bloomfield's 1933: 121 terminology they would be called sonants, "phonemes which occur in both syllabic and non-syllabic positions". The notion is also used by Schönfeld & Van Loey (1970: 65). German and English sometimes allow liquids as syllabic elements, as in [lœf] = *Löffel*, 'spoon', English *metal*, [metl].

This regularity is exploited in rhyming. In older approaches (e.g. Kuryłowicz and Pike²⁷) the syllable was therefore seen as a hierarchical construction, viz.



Irrespective of the number of branches that are present, the strongest terminal element in the metrical 'syllabic template' (14) is the S-node which is exclusively dominated by Ss. This terminal node in a metrical tree is generally called the Designated Terminal Element. Immediately to its right the next strongest terminal element can be found: an S dominated by a single W, etcetera.²⁹ The mountain-like shape of a syllable is thus formally expressed through a simple principle (plus some special conventions which we will not consider here).

In essence this template, which can be regarded as an elaboration of the older model (13), reflects the former conception in that the syllable is seen as a hierarchically organized entity; the fact that the coherence between nucleus and coda is higher than that between nucleus and onset, expressed in (13) through the Rhyme-node, is also expressed in (14), although this is achieved in a more formal way, which -besides- respects binarity. Both abstract models make it possible to formulate phonotactic restrictions and phonological processes in strictly local terms (Wester & Wetzels 1986: 95).

As regards phonotactic restrictions, Kiparsky proposed an optimal matching of the syllabic template to the sonority hierarchy via the universal syllabification rule. Adjusted to our numbering, this universal rule reads as follows:

- (15) "Analyze a string of segments into the simplest maximal sequence of trees in such a way that the relative sonorities defined by (14) and (10) match for every pair of adjacent segments in a σ " (Kiparsky 1979: 432-33)

Thus the terminal prominence distribution, which are determined by the Strong vs. Weak relations in the metrical syllabic template, define the distribution of the feature sonority (which is also scalar) over the syllable.

We will assume that in case

1. the highest W-node is not associated with any segment, and
2. the S-position contains a vowel, and
3. no consonant precedes even after resyllabification,

in Dutch the empty pre-vocalic position is phonetically filled by the default consonant /ʔ/, the glottal stop (cf. Neijt 1991: 79). Hyman (1985: 36-37) presents a rule of Gokana which inserts a glottal stop "whenever a V occurs immediately after a left bracket", and Kaye & Lowenstamm (1981: 297) consider a phonetically empty onset as generally marked. The effect of this assumption is that phonetically no single syllable begins with a sonority peak.

²⁹ This interpretation is analogous to the algorithm for converting the metrical stress tree which heads a word into relative stress of its syllables. The latter forms a scale ranging from strongest stress, which is assigned to the syllable dominated by the maximum number of strong nodes, to weakest stress, which goes to the syllable with the maximum number of weak nodes.

2.4.5 How symmetrical is the syllable?

Still other abstract models have been proposed regarding syllable structure within the autosegmental framework³⁰, but we will not dwell on this issue here. The point to be made is that syllables typically display a *distribution of sonority* that may informally be described as a rise that is (often but not necessarily) followed by a fall. For instance, in their description of the distribution of the segments of Frisian, Cohen et al. (1978: 144-47) observe that "within the syllable, the consonants group around the most sonorous part in the order of their sonority, hence before the vowel in increasing, and after the vowel in decreasing sonority" (my translation, FH).

It should, however, be stressed that this pattern is not always reflected phonetically; "it is not surface-true [...]; it is a principle of grammar governing the syllabification of segments in core phonology, where it may interact closely with other rules and principles of grammar in ways that may render its effect less than fully transparent at the surface" (Clements 1987: 6, 10). At the level of initial syllabification, i.e. at the 'earliest' lexical level, sonority values on both sides of the peak or 'crest of sonority' may come close to mirror images.³¹ However, even at this level absolute symmetry cannot be expected. Kiparsky's metrical syllabic template is itself not entirely symmetrical: the right half of the tree overall is stronger than the left half, because it is dominated by an S-node.

It has been observed that languages can be ranked on an implicational scale according to the degree of 'complexity' of the syllable types they allow. In this connection, complexity concerns the number of pre- and post-nuclear consonants permitted. For instance, a language that allows syllables of the general format CCVC will also have syllables of the type CVC, but not necessarily vice versa. At the 'bottom' of the scale of complexity one finds CV as the least marked syllable type (Kaye & Lowenstamm 1981). Many instances of intra-systemic (often stylistic) phonological variation boil down to consonant cluster simplification, and hence can be seen as a tendency into the direction of the CV type syllable. Moreover, CV is usually the first syllable that can be distinguished in first language acquisition. It turns out to be a relatively persistent source of interference in processes of second language acquisition of speakers with a mother tongue that strongly tends towards CV syllables (such as e.g. Spanish, Turkish, Japanese). There is phonetic evidence to consider CV as the firmest, most tightly-knit articulatory unit (MacNeillage & Declerk, paraphrased in Rietveld 1983: 62). Perceptually, the syllable sequence CV \$ CV is maximally distinctive. In short, also from this point of view syllable structure does not appear to be completely symmetrical.

³⁰ E.g. Clements & Keyser's 1983 'flat' syllable model, elaborated in *CV Phonology*, parts of which were applied to standard German by Wiese 1986, 1988.

³¹ Clements 1987: 52; Bloomfield 1933: 120; Booij 1981: 89.

We anticipated this general fact in the text of the preceding subsection; it was already pointed out that a syllable does not have to contain any segments in the environment to the right of the nucleus. In terms of sonority: the distribution of sonority over the syllable can be informally characterized as a rise that may but need not be followed by a fall. This fact is captured by Kiparsky's metrical syllabic template, reproduced as (14) above. After all, the prominence tree does not have to branch beyond the highest W-S level.

Clements (1987) is an attempt to unite the sonority concept with Fujimura's 'demisyllable'. "A syllable is divided into two overlapping parts in which the syllable peak belongs to both; each of these parts is termed a demisyllable" (28). Whereas sonority contrasts are maximized in the initial demisyllable, they are minimized in the final one. Consequently, the preferred syllable shows a sharp rise in sonority followed by a gradual decline (Clements 1987: 29, 52). Hence the two demisyllables constituting a syllable are not each other's exact mirror images. It is easy to see how this model accounts for the fact that CV is the universally least marked syllable type. In the initial demisyllable, which consists of CV, the contrast in sonority is maximized, whereas the V forming the final demisyllable optimally minimalizes the sonority contrast: as there is no segment following V, the sonority contrast is zero.

2.4.6 Several types of evidence

Differences in strength between positions within the syllable, as expressed in Kiparsky's metrical syllable tree, can among other things account for the fact that consonants (in the overwhelming majority of languages only forming syllable edges) seem generally more susceptible to change than vowels (which can usually occupy the nucleus position only).

Specifically with respect to consonants, an asymmetry has been observed between onset and coda positions. Whereas in the syllable onset consonants or consonant clusters are usually stable, and sometimes even strengthened, in the coda they are often weakened or even deleted, e.g. in second language acquisition. This tendency is clearly visible in the data for Tropic's study of the acquisition of German by Spanish migrant workers (Tropic 1983-II: 230). With regard to processes affecting consonants in the coda, Tropic's findings strongly confirm the sonority scale

(16) plosives < fricatives < nasals < liquids

The 'omission' of consonants in the coda shows an implicational pattern: if a speaker deletes consonants of a given sonority level, then he will also delete the classes of consonants with lower sonority values. Conversely, if a speaker realizes coda consonants of a given sonority level, then he will also realize the classes of consonants with higher sonority values (cf. Tropic 1983-II: 231-32). Comparable tendencies have frequently been observed in processes of first language acquisition. An early account

in this vein (in which the notion sonority is not applied, however) can be found in Van Ginneken 1917: 50-57.

Facts like these can be considered as external evidence for the sonority model. To this may be added internal, substantive evidence of several types, such as a range of historical changes in a variety of languages (described by e.g. Foley 1970; Vennemann 1972; Hooper 1976: Chs. 10 and 11). Certain synchronic phenomena can also be accounted for by the universal tendency to optimize the sonority contrasts within the syllable. A case in point may be the variable use of [d] and [t] for [ð] and [θ] respectively, orthographically *th*, in varieties of American English (Labov 1972a). Possibly the same applies to the variation between e.g. [sr]eeuw vs. [sɣr]eeuw, 'scream', [sr]ijven vs. [sɣr]ijven, 'to write' etc., in certain varieties of Dutch, and of course the variable deletion of word-final /t/ and /d/ after consonants, especially after obstruents in many varieties of Dutch and English.

A related concept is Bailey's (1973: Ch. 3) 'dynamic markedness' of a segment depending on its position in the syllable. Bailey's model of linguistic change was one of the first that "require[d] treating syllables as basic production units" (43).

2.4.7 Universal and language specific aspects

In short, syllable structure is an important aspect of the lexical representation. The sequencing of segments within each syllable of a lexical representation is determined by the relative sonority of the individual segments.³² As has been noticed already, a segment's membership of a certain syllable is not an inherent property of that segment; its possible position(s) within a syllable, however, is, and it is determined by its relative sonority. The sonority distribution derived from the phonetic substance should conform to the hierarchical structure of the syllable. Tropic (1983-II: 234-35) stipulates that this principle may be rooted in general articulatory and perceptual constraints and may thus be part of the universal mental language programme. Selkirk refers to this principle as the Sonority Sequencing Generalization (paraphrased in Van der Hulst & Smith 1985: 39).

This model for the distribution of sonority over the syllable constitutes the universally most preferred, or canonical structure. Languages may deviate from this universal tendency in two directions; on the one hand they may allow syllables which are not permitted by the universal Sonority Sequencing Generalization; examples are "syllable-initial clusters with *s* followed by a stop occur[ring] in the Germanic languages, and clusters like syllable-initial *mgl* or the syllable-final *pl* in Russian" (Van der Hulst & Smith 1985: 39; cf. Wiese 1986: 9-10). On the other hand languages may disallow syllables that are permitted by the Sonority Sequencing Generalization. In

³² With respect to both location and input, the distribution of sonority over the syllable in this model is thus partly comparable to the morpheme structure rules in *SPE*-type theories.

Dutch, for example, syllable-initial clusters of a stop followed by a fricative exist only in originally non-endogenous words like 'psalm', 'xylofoon' and the like. In standard English these clusters are reduced to a fricative.

The language-specific occurrence of both negative and positive exceptions to the universally preferred distribution of sonority over the syllable³³ indicates that there may be additional substantive rules governing syllabification. Likely candidates are phonotactic rules like Van der Hulst's (1984) 'dissimilarity conditions' or 'minimal sonority distance' constraints, which demand a minimally required distance in sonority values between contiguous segments.

Whether or not there is one universal sonority scale and whether or not languages may differ from this default scale (hence from one another) with respect to the relative position of segments on the sonority scale still seems an open question (Clements 1987: 12-13). In connection with the latter, Van der Hulst (1984: 48, 84 ff.) went so far as to claim that for Dutch sonority values are absolute, rather than relative values. Rietveld (1983: 57) concludes from some distributional facts of Russian that the form of the sonority scale is language-specific - passing over the possibility of language-specific deviations from the phonotactic metarules regarding the distribution of sonority over the syllable.

2.4.8 Syllable structure, resyllabification and sonority

The model of syllable structure outlined so far looks roughly like this: the Sonority Sequencing Generalization, which brings about an optimal match between the metrical syllabic template and the phonetic substance on the basis of the sonority scaling of available segments, provides an abstract framework for well-formed syllables in natural languages. Additional language-specific negative or positive constraints may be at work in the adaptation of loan-words. Adaptation seems necessary before an item can be fully incorporated into the lexicon³⁴, since the lexicon forms the first input for phonology (including initial syllabification). Universal and language specific constraints together form a filter protecting phonology against structures that cannot be dealt with. In 1972, Kiparsky already considered "the possibility that the phonological structure of the lexicon might itself delimit the sound changes a language undergoes" (1972: 216).

At the start of derivation, well-formedness conditions regarding the distribution of sonority over the syllable are relatively severe. In the lexical component of grammar,

³³ More examples for German and Dutch can be found in Tropic 1983-I: 210-15 and Booij 1981: 91-97, respectively.

³⁴ Cf. "All syllable constraints are defined at the level of lexical representation", where marking conventions apply (Kaye & Lowenstamm 1981: 300). According to Wiese 1986: 11, however, morphemes do not have to obey the Sonority Sequencing Generalization, cf. e.g. the fact that in Semitic languages roots merely consist of consonants.

phonological and morphological operations take place in an interactive way. After each of these operations, the resulting output may have to be resyllabified, resulting in a syllabically different representation.³⁵ The determining power of the sonority distribution, however, lessens as derivation proceeds. Phonological naturalness requirements more and more give way to lexical and morpho-syntactic matters, but this is not typical for sonority sequencing alone.

As a principle underlying local phonotactic phenomena, optimization of the distribution of sonority over the syllable can be seen at best as an -initially strong-tendency (Booij 1981: 90), the power of which gradually decreases as derivation proceeds.

Inevitably, this brief sketch is superficial and incomplete. Other, related aspects of syllable structure and of the phonological model more generally will be presented when we need them in our discussion of specific outcomes of our investigation.

2.5 Language variation and related phenomena as a field of shared interest of phonology and sociolinguistics

It is rather common for sociolinguists to blame 'theoretical' linguistics for assuming homogeneity of language systems, and for not being interested in language-external correlates of variation. Unfortunately, however, many sociolinguists appear to make a similar mistake in limiting their attention to the relation of variation in language use to extralinguistic parameters and neglecting the fact that variation

- is itself usually linguistically structured, and
- is necessarily part of the structure of the linguistic system.

In this investigation it is our aim to integrate the phonological model sketched above into our sociolinguistic model. This integration is motivated by the consideration that the predictive power of the sociolinguistic model does not go beyond the level of the individual linguistic variables (or dialect features), whereas the phonological model becomes operative at and below that very level. The two models thus complement each other in tracing the path of dialect levelling. The extralinguistic dimension in our approach pertains to specific aspects of both the macro- and the micro-social context, the linguistic dimension appeals to general, in principle language-independent, aspects of phonological organization. In short, from the phonological model, and from the incorporation of linguistic factors in general, we expect to gain explanatory depth.

³⁵ Cf. Tropic 1983-I: 216; Wiese 1986: 11. On (re)syllabification as a necessary condition for the application of certain phonological rules see for example Vennemann 1972 and Kaye & Lowenstamm 1981: 300-306. For a more recent account of syllabification as an 'anywhere rule', see Booij 1981: 153-56, 183-84.

In the optimal case, sociolinguistics and phonology will stand in a symbiotic relationship in this investigation. In the relevant cases³⁶, phonology

1. makes it possible to predict where a certain *dialect feature* occurs and where it does not. In other words, it helps to demarcate the structural limits of the variable concerned, and
2. explains processes of *dialect levelling* on a level of specificity where they cannot be related to extralinguistic parameters.

Phonology thus fulfils servant functions. At the same time, it could profit from this investigation insofar as

3. the exact nature and distribution of *dialect features*, and
4. certain findings regarding *dialect levelling* can be seen as the proof of the phonological pudding.

The latter two points may seem pretentious. In any case, many recent phonological publications show that statements of the purport that theoretical linguists would not be interested in language variation are simply not true. A claim such as "it does not matter to a phonologist, for example, that his theory makes the wrong predictions about performance" (Schouten 1989: 34) therefore testifies that the person who made it has not kept up with phonological publications for many years.

We will briefly illustrate the above four points with an example; in presenting this example we run ahead of our presentation of this variable in more detail later. In a very limited set of Limburg dialects of Dutch a rule exists which weakens (syllable-initial) /ɣ¹/ to [j]. Analysis made clear that the maximal domain of application of this rule is the intonational phrase. As may be expected on the basis of a very general characteristic of Dutch and German, this segment (like all voiced obstruents) only occurs syllable-initially. So much for point 1. Phonological theory was then called upon to explain why only this fricative is weakened and not /v/ and /z/, which are also voiced and which also only occur in onset position (point 3, see Ch. 5). The theory has also been invoked to make predictions about the structural path along which the levelling out of this and other features will proceed (points 2 and 4, relevant to hypothesis II; the findings will be presented in Chs. 6 to 11). Needless to add that sociolinguistics alone cannot provide answers to such questions.

On theoretical grounds Singh & Ford (1989) determined the boundaries of the domain of several instances of structural variation (point 1). On the basis of a phonological model which seems to be even more fragmented than ours, they critically discuss five "so-called variable processes" in different languages. The authors conclude that "only one of the five cases [...] involves variability that can be truly characterized as 'inherent'" (376). In the other cases variability is suggested by inadequate observation and (formal) description.

³⁶ As will become clear, the investigation was not limited to phonological variation in the first instance.

In § 2.3.5 above we applied insights from nonlinear phonology to explain the quality of two diphthongs of the creole language spoken on the Caribbean islands of Nevis and St. Kitts. This can be considered as a specific attempt to reach the type of aim presented under point 3.

As another example of this, let us consider the following claims by Booij (1981). "The application of vowel reduction may result in resyllabification of the word undergoing this rule. In e.g. 'pastoor' ['priest', stress on the second syllable - FH] the [s] is ambisyllabic³⁷, because it is preceded by a short vowel. But after reduction the [s] is preceded by a schwa, as a result of which the [s] now belongs to the second syllable only" (Booij 1981: 151, cf. 84-85 - my translation, FH). Whatever the syllable membership of the [s] in the variants with the full, unreduced vowel, with respect to the claim that it exclusively belongs to the second syllable in variants with the reduced vowel there is evidence in the Limburg dialects of Dutch investigated in this study. These dialects also display variation between unreduced and reduced vowels in this context. A feature that distinguishes most Limburg dialects, including the ones at issue, from other varieties of Dutch is the palatal realization of /z/ and /s/ in syllable initial position before a consonant (as well as in certain other positions, which are of no relevance here). Consider (17).

- | | | | |
|------|------------------------|----------------------|----------------------|
| (17) | *bə'sty:ʔ _R | bəʃty:ʔ _R | 'board of directors' |
| | *ɣ ^l ə'stuç | ɣ ^l əʃtuç | 'mental home' |

However, in coda position following a vowel, an 'etymological' /s/ remains [s] - e.g.

- | | | | |
|------|----------------------|-----------------------|---------------------|
| (18) | 'me·stə _R | *'me·ʃtə _R | 'master', 'teacher' |
| | 'pasta | *'paʃta | 'paste', 'pasta' |

In the case of 'pastoor', palatalization is excluded in the variant with the unreduced vowel, thus:

- | | | |
|-------|-----------------------|-----------------------|
| (19a) | pa'stu:ʔ _R | *paʃtu:ʔ _R |
| | pə'stu:ʔ _R | pəʃtu:ʔ _R |

and, likewise, in the variants of the toponym 'Maastricht', to give another example (with stress, again, on the second syllable):

- | | | |
|-------|-----------|----------|
| (19b) | mə'struç | *məʃtruç |
| | mə'stre·ç | məʃtre·ç |

³⁷ I.e. must on phonological grounds be considered to belong to two adjacent syllables - FH.

The fact that /s/ can be palatalised when the preceding vowel is reduced implies that it is no longer part of the first syllable. These and numerous similar facts appear to prove that Booij's syllabification of the forms with reduced vowels is correct at least for these dialects. At the same time they seem to imply that in the variants with a full, unreduced vowel the [s] does not belong exclusively to the second syllable.³⁸ The possibility that, in the latter case, it is only part of the first syllable is, however, not excluded as far as these dialects are concerned.

As pointed out under 4. above, phonology may profit from this investigation to the extent that particular findings regarding dialect levelling can be seen as a test of specific aspects of the phonological model. In this connection it should be stressed, however, that we do not intend to compare several rival positions in generative phonology with respect to their possible predictive adequacy concerning dialect levelling. Our aims are much more modest in that we simply 'apply' theoretical aspects that seem to be relevant at a certain point in the investigation. Besides, we did not always confine ourselves to formal theory; sometimes the approach must rather be called structuralist, or slightly 'functionalist' - neither of which qualifications we regard as a depreciation.

There is an additional reason for being careful about 4. As Cutler (1986) pointed out on the basis of speech recognition data, testing phonological claims against performance evidence can be problematic, since the direct relevance of psycholinguistic processing models to phonological theory is generally limited. In our view, the present investigation may supply phonology with what can be seen as external (cf. Botha 1978: 298-301), at best substantive evidence. However, we do not agree with García (1985) who altogether doubts the relevance for linguistic theory of sociolinguistic analyses of variation. The fact that neither sociolinguists nor 'theoreticians' have as yet succeeded in integrating both streams does not prove that 'performance phenomena' are of no significance to linguistic theory. Nor does it necessarily mean that both streams as such are on the wrong track and should re-orient themselves towards a 'communicative' approach.

2.5.1 Internal forces as probabilistic explanations of change or levelling

These considerations and our view of language change as a multicausality phenomenon imply that we do not require linguistics to deliver deductive or causal explanations for processes of dialect levelling (point 2 above), although the overall model should of course be as parsimonious as possible. With respect to linguistic dimensions, we expect absolute explanations or predictions³⁹ no more than with respect to the extralinguistic factors. Therefore we will not treat phonological theory in the usual

³⁸ This may be the sort of external evidence for Booij's syllabification that Rietveld 1983: 91 demands.

³⁹ Which can be expected in the case of "necessary connections" or, for the empiricist, "constant conjunctions" (Bullock & Stallybrass 1982: 91-92).

Popperian all-or-nothing fashion.⁴⁰ In other words, we will not reject the theory when not all relevant findings are in accordance with it. Rather, the claims deduced from it will be considered as probabilistic explanations⁴¹ or as (favouring or disfavouring) internal conditions, impulses or constraints.

As a case in point, consider the developments in two different dialects of Spanish spoken in Peru, described by Hundley (1986). In the 'coastal' variety of Lima, weakening and deletion of word- and syllable-final /s/ occurs. This can be considered as a natural, linguistically motivated change which, by the way, is far from uncommon in Iberian and Latin-American varieties of Spanish. In the 'mountain' variety spoken in Cuzco, on the other hand, unstressed vowels are weakened and deleted, resulting in a syllable structure that, given the phonotactics of Spanish, is marked. This development must, according to Hundley, be seen as a consequence of substratal influence from Quechua. The fact that the Andean dialects do not also undergo /s/-reduction can be seen as a manifestation of the fact that such developments are not necessary.

Several compensatory lengthening phenomena can likewise be seen as support for a probabilistic interpretation of claims deduced from linguistic theories. As Sezer & Wetzels (1986: 6) point out, compensatory lengthening generally "occurs more readily in accented than unaccented syllables". Likewise, in coda position it can be expected to occur more frequently than in the syllable onset. The motivation for both preferences is identical, namely that syllable weight is preserved. The observation that vowel lengthening occurs more easily if the deleted segment is a sonorant can be explained if it is expressed as complete assimilation between segments that are already much alike: the vowel and the sonorant consonant share the feature [+son], and possibly [+approx] in the case of glides and liquids. All three characteristics of compensatory lengthening are 'tendencies', as the authors put it themselves.

Some instances of linguistic change can be interpreted as response to needs, "whether the needs of the system itself to remain in conformity with the principles of Universal Grammar [...] or the needs of speakers to organise where possible the linguistic data they encounter in economic, coherent and isomorphic ways" (M. Harris 1982: 12). Quite often several different strategies seem to be available to satisfy these needs. Since, moreover, the needs themselves are neither static nor absolute, explanations can generally be no more than probabilistic statements (p. 14). This holds *a fortiori* in the case of dialect levelling; the adequacy of the phonological model in this connection should accordingly be tested with the aid of quantitative sociolinguistic methodology. Besides, with regard to the sonority distribution, more stringent explanations can never be expected. If the relative 'strength' of syllabic positions vis-à-

⁴⁰ Containing, among other things, that a theory can be accepted only provisionally. According to the principle of falsifiability, a theory holds until it is disproved, even if just once (cf. Bullock & Stallybrass 1982: 486).

⁴¹ Cf. Kiparsky 1972: 222; G. Sankoff 1974: 77-78; Altmann & Grotjahn 1987: 1026, 1033; D. de Jong 1988: 99-101, 122.

vis natural processes such as reduction or, put otherwise, the tendency to simplify demisyllables, were the only structural force behind phonological dynamics, "all languages would eventually wind up with simple CV syllables and no others". But as there are always competing tendencies, it is far from easy to develop strongly predictive theories of sound change, Clements (1987: 49) warns.

In most cases of linguistic change, one cannot know why disequilibrium entered the system in the first place. In the specific case of dialect levelling, one is *in principle* able to explain this, namely as a result of the lasting contact with differing, more or less contiguous, varieties. Hoppenbrouwers (1983b: 262) claims that the analysis of processes in which dialect features give way to equivalent elements and structures from the standard language adds to our insights into the place and working of the grammatical components and the related rule typology.⁴²

A connected, though slightly different, position is taken in the present investigation: the assumed model of grammar, and particularly of phonology, is seen and used as a theory from which specific hypotheses are derived regarding processes of the levelling out of dialect features. The assumption (or 'abridging theory', as Botha 1978: 299 ff. might call it) behind this approach is that under the pressure of the lasting contact with structurally different varieties those features will first be levelled out that -generally or in a certain environment- are most problematical or 'marked'. The general hypothesis in our study is that dialect levelling will proceed structurally gradually in this sense. This position, too, requires a probabilistic rather than causal conception of the linguistic machinery with respect to dialect levelling.

In the chapters to follow we will show how aspects of the phonological model can play a role in accounting both for certain instances of variation and for the process of the levelling out of this variation in the dialects under study.

⁴² My paraphrase, FH. Critical remarks with respect to this position can be found in Hinskens 1985b: 132.

Part II

Setting, methods and linguistic variables

Chapter 3

The research area

3.1 Introducing the former Mine District, Ubach over Worms and Rimburch

The investigation on which this study is based was carried out in the small village of Rimburch. Rimburch is part of Ubach over Worms, a town in the extreme southeast of the Dutch province of Limburg, in between Belgium and Germany. Since Limburg forms the southeastmost province of the Netherlands, Rimburch, lying on the German frontier, is situated in one of the most peripheral parts of the country. Most of the relevant geographical and dialect-geographical relationships, as well as some economic information, are represented on Maps 1, 2 and 3.

In the first quarter of this century, in the southeast of the province, coalmining developed very rapidly and soon became the chief means of existence in this traditionally agriculturally oriented region. The industrialization had tremendous demographic effects. The coalmining sector, in the Netherlands represented only in southeast Limburg, soon became so important to the national economy that the region became known as the Mine District ("Mijnstreek") and it still is called this way, even though the twelve mines were closed down in the seventies. Ubach over Worms (including Rimburch) lies in the heart of the oldest part of the industrial zone. The most important towns in the region are Heerlen and Kerkrade.

The area that Rimburch forms part of can be called a unit not only in socio-geographical but also in dialect-geographical terms. In the present chapter, this area will be sketched with respect to

- 1) historical, economic and socio-demographic developments in the last century (section 3.2), and
- 2) the dialect situation (section 3.3).

3.2 The economic and socio-demographic history of the region: a brief sketch

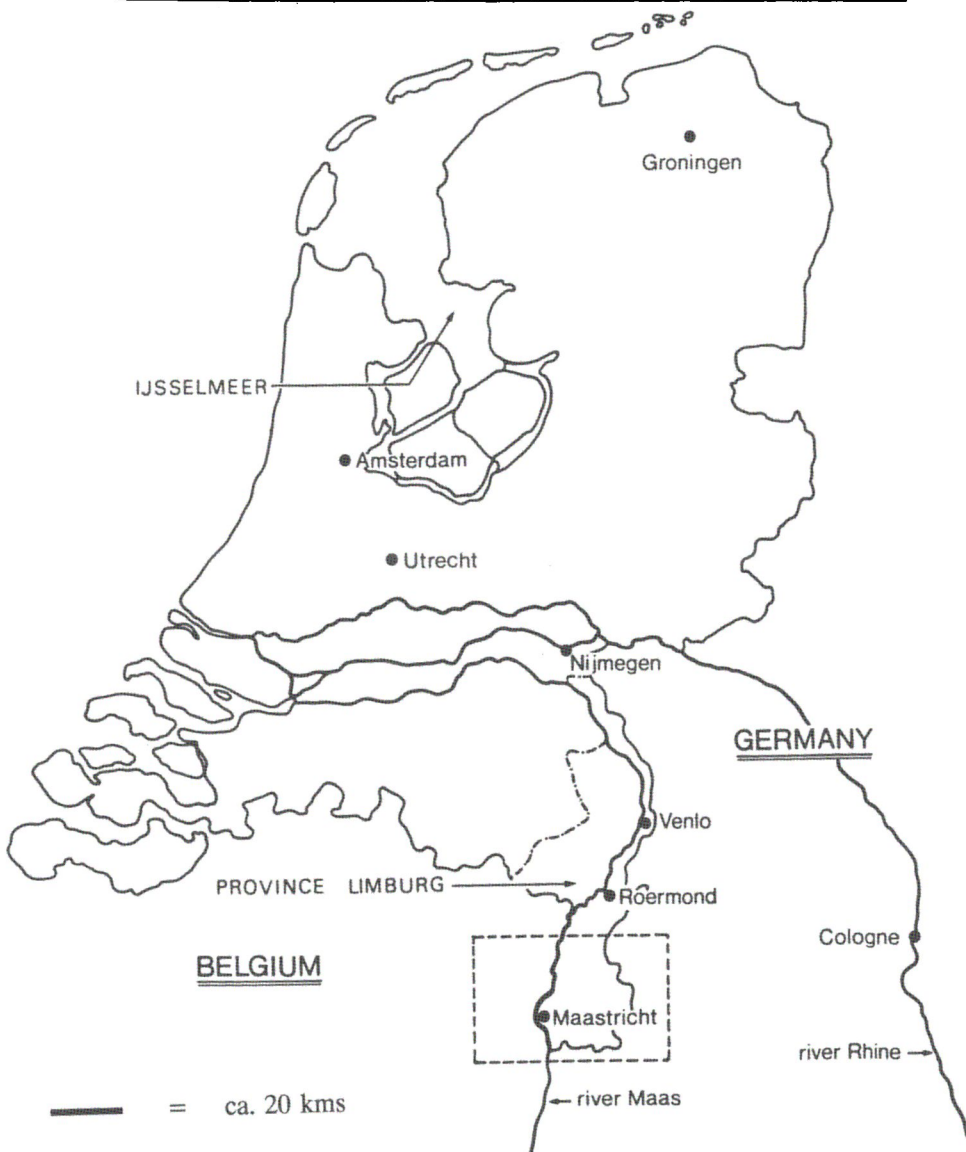
3.2.1 The pre-industrial period

Until the beginning of this century the entire south of Limburg was almost exclusively oriented towards agriculture.¹ The only exception was the city of Maastricht near the

¹ See e.g. Breuer 1974: 7, Breij 1981: 33 and OCGL 1989: 88.

Belgian border. As will be illustrated later on in this section, the density of population in the region was very low. Infrastructure consisted largely of paths and a few unpaved roads (Breuer 1974: 7).

Map 1
The Netherlands



Map 2

The southern part of the province of Limburg

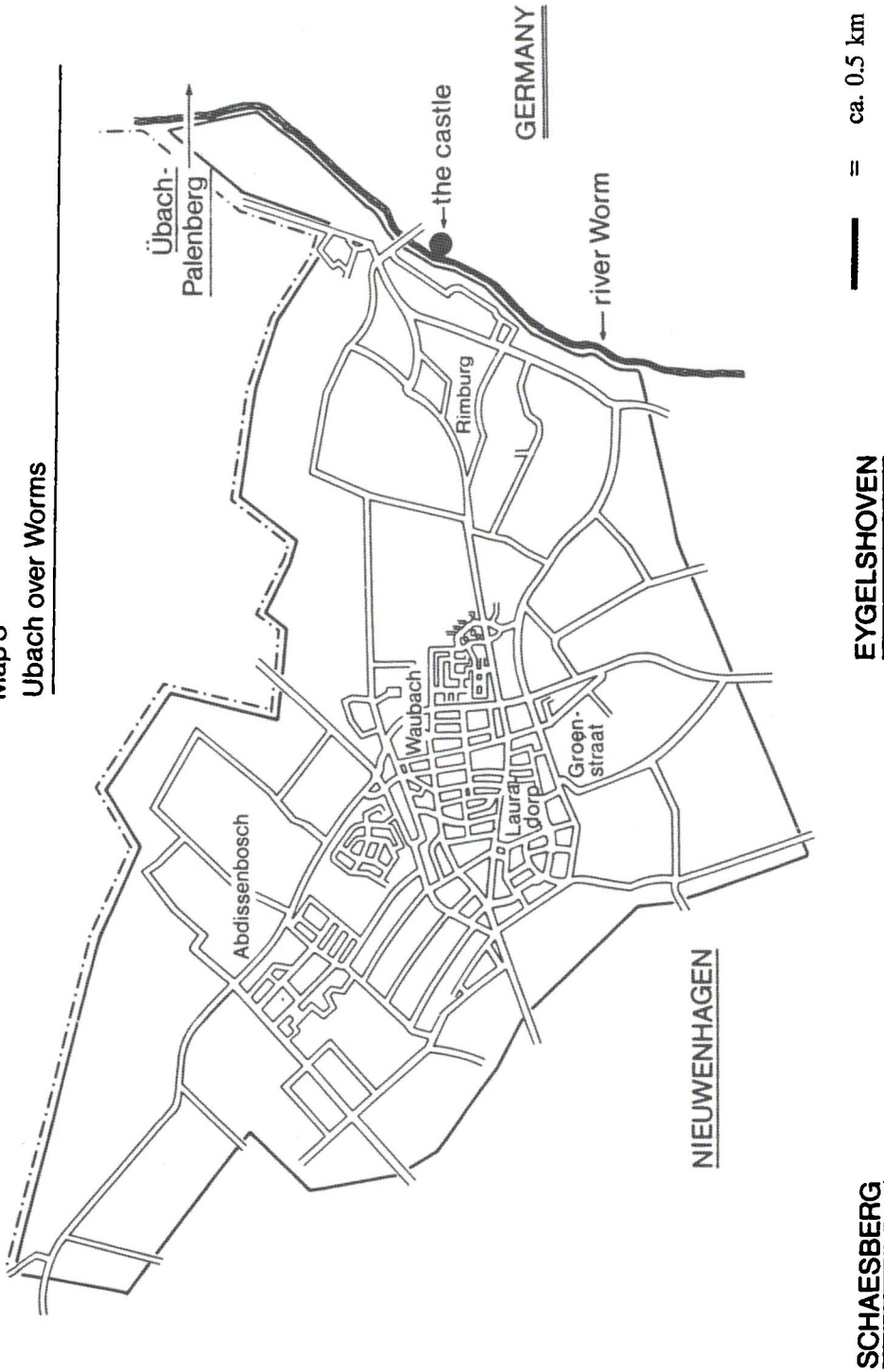


A: Ripuarian dialects

B: transition zone Ripuarian-East-Limburg dialects

C: East-Limburg dialects

Map 3
Ubach over Worms



Throughout the history of the region, French/Walloon and German influence on the south of Limburg has generally been very strong, among other things as a result of geography and marriage. Limburg officially formed part of the German empire from the early Middle Ages until 1555, and certain parts even until the years of the French occupation, which for this region² started in 1795 and lasted for twenty years. In 1839, Limburg was incorporated into the kingdom of the Netherlands.

History did not treat all parts of the present south of Limburg alike, however. As for Ubach over Worms, in the fifteenth century it was part of Burgundy. Then, until the second half of the sixteenth century it belonged to the Austrian House of Habsburg; until 1713 it was Spanish, and until the French occupation it was Austrian again (H. Goossens 1981: 44). In 1815, the Vienna Congress assigned it to the Netherlands. However, from 1830 until 1839 the entire province except Maastricht and Venlo formed part of the newly created Belgian Kingdom. Until 1867 it was in the ambivalent position of being a Dutch province and at the same time a member of the German Federation.³

The famous Dutch historian Geyl investigated the factors that generally are crucial to the formation of nations, among which are a common race, religion, economic interests and a common history. He concluded that what he considered to be the two main factors, language and geography, were the most powerful forces resisting true integration of Limburg into the Netherlands (Pover 1970: 63-65). To illustrate this, Vellenga (1975: 22-23) states that in south Limburg people may be heard saying that the area has 30 kilometres of frontier with Germany, 50 kilometres with Belgium and merely 5 kilometres with the Netherlands. However, although certain anti-Holland resentments still exist, the present author, born and bred in the area, has never heard things like this.

3.2.2 The industrialization process and its demographic effects

From the Middle Ages on, Rolduc, an abbey near Kerkrade, about 8 kilometres south of Ubach over Worms, had exploited an open coalmine. As a consequence of the importation of relatively inexpensive grain from the United States at the end of the nineteenth century, a serious and lengthy agricultural crisis broke out in Western Europe. As in many other areas, this crisis caused mass unemployment in the southeast of Limburg. In those years, rich Belgian and German families initiated large-scale underground mining in the area east of the imaginary line Geleen-Kerkrade. Capital and know-how were Belgian and German. Heerlen, which had been one of the many small and isolated villages, became connected by rail with the

² Fifteen years earlier than was the case in other parts of (what is presently) the Netherlands - H. Goossens 1981: 278.

³ Hanssen 1912: 289 ff, 303 ff sketches some of the administrative and practical consequences of this situation for Rimborg and the surrounding area.

northwest (via Sittard) and the east (via Kerkrade, Herzogenrath and Aachen). This opened up the south of Limburg to the rest of the country. As a result, the German economic and cultural influence gradually gave way to influence from the dominant western part of the Netherlands. The Dutch government soon became aware and suspicious of the almost exclusively foreign control of the developing industry. In 1902, Mine Laws were passed and in 1903 preparations were made for the exploitation of four State Mines. These mines became the biggest ones, not only with respect to the number of employees, but also as far as coal production was concerned. However, numerically they were outnumbered by the privately owned, smaller mines. In 1927 there were 12 mines in Limburg.

The enormous demand of manpower attracted thousands of people, as Table 3.1 below shows.

year	source	
	Pover	Vellenga
1895		424
1900		1,149
1903	1,785	
1905		2,034
1910	6,087	6,664
1915		10,271
1920		22,874
1923	26,393	
1925		30,406
1930		37,645
1935	24,848	29,405
1940		39,965
1955	56,150	

Table 3.1 Growth of total number of employees of the Limburg coalmines, according to Pover (1970: 23) and Vellenga (1975: 78)

Labourers came from all parts of the Netherlands, but also from several other countries. Senior employees were recruited almost exclusively in the western provinces of the Netherlands. In 1933 a large majority (61.7%, 4154 people - after Breij 1981: 77) of the foreigners were Germans; the others were mainly people from Middle- and Eastern-European countries: Poland, Yugoslavia, Austria, Czechoslovakia and Hungary, in decreasing order of numerical importance. Belgium and Italy were

also represented.⁴ The figures in Table 3.2 give an indirect indication of the size of the immigration.

year	source		
	Breuer	Breij	Pover
1907	20.0	19.6	
1910	23.0		23.0
1914			19.0
1917		23.6	
1925			20.8
1930	30.0		31.9
1938			11.7

Table 3.2 Percentages of non-Dutch personnel in the Limburg coalmines before World War II according to Breuer (1974: 8), Breij (1981: 42-43) and Pover (1970: 268)

As Kreukels (1987) points out, in the first two decades of this century foreigners were mainly needed in the coalmines for their technical skills, while those who were recruited in the thirties and afterwards were mainly needed as unskilled labourers to increase general productivity. The result of this shift probably comes out in the fact that in 1933 87% (n=6,738) of the non-Dutch employees and 61.7% (n=15,438) of the Dutch employees were underground-labourers (after Breij 1981: 77).

As regards the Dutch newcomers to the Mine District, especially after 1925 many people from the centre and the north of the province Limburg settled in the south. In that year a mine was opened in Geleen, some twenty kilometres northwest of Heerlen, and many Middle- and North-Limburgers got a job in this so-called New Mine District (Breij 1981: 63).

The disproportional growth of the population in this region as compared to the Netherlands as a whole can be seen in Table 3.3.

This disproportional growth was caused for the largest part by migration, as is attested by the following data. Between 1865 and 1965, the mean conjugal fertility in Limburg (as well as in the neighbouring province Brabant) was above the national mean. If the latter is put at 100, Limburg displays peaks in 1910 (+38) and 1930 (+36). After 1930 the curve slopes downward, and since 1965 the mean conjugal

⁴ Based on data in Breij 1981: 77.

fertility in Limburg is clearly below the national mean (from 1970 onward -15; source: Vuijsje 1990). Evidently, this factor accounts only for a small part of the population growth: as appears from the figures in Table 3.3, between 1900 and 1950, the population almost doubled in the Netherlands as a whole (growth factor 1.96), whereas in the Mine District it increased by a factor 4.54.

		1880	1900	1930	1953	1970
Ubach o W	1	1,307		6,882		11,098
Kerkrade	1,2	6,344	9,619	36,800*	44,526	47,674
Heerlen	2		6,664	46,505	63,197	
Old Mine D	2		40,274	169,505	219,626	
New Mine D	2		29,462	62,457	96,909	
Mine Distr	2		69,736	232,105	316,535	
Netherl x 1000	3		5,104	7,832	10,027**	12,958

Table 3.3 Growth of the population. Sources: 1 = Breuer (1974: 20), 2 = Pover (1970: 25), 3 = CBS (1988: 58)

* = Breuer: n=36,766 whereas Pover: n=36,855

** = this figure applies to the year 1950

The socio-geographical changes were not merely of a quantitative nature; until World War II, qualitative effects were a large surplus of males (for the great majority of the personnel of the coalmines worked underground) and a heavy over-representation of the 'middle' age-group (Breij 1981: 63; Vellenga 1975: 81).

3.2.3 Effects on infrastructure. Flexible response by the power elite

Since the counter-reformation, which was highly effective in the southern provinces of the present-day Netherlands, especially Limburg has been almost completely Roman-Catholic. The rapid and massive social and demographic developments taking place in the first quarter of this century were felt to be politically dangerous. The catholic party, to which the economic power in southern Limburg was (and still is) closely connected, was anxious to protect its traditionally loyal electorate. Partly for this reason the development of big industrial towns was considered undesirable. Therefore, the organization of smaller scale housing corporations, initiated by private persons and

by the governing bodies of the coalmines, were firmly supported by the catholic party and by local and regional authorities, as well as by the clergy. An example is the association *Ons Limburg* 'Our Limburg', an organization which aimed at providing housing, which was founded in 1911 by mayors and priests. Between 1911 and 1935 this association built 5262 houses in the developing Mine District (cf. Vellenga 1975: 88-89). Rather tellingly, the new housing districts were generally called "kolonieën" (colonies) in local parlance.

For both logistic and socio-political reasons the new villages, which were needed because of the massive immigration, were planned close to the coalmines. The existing, older villages were intended to keep their traditionally rural character. Consequently, even nowadays the District does not give the impression of the heavily industrialized region it really was. In Ubach over Worms two relatively big new neighbourhoods were built in the period between the World Wars: Abdissenbosch in the north and Lauradorp in the centre (see Map 3). The latter owes its name to one of the two privately owned coalmines in the neighbouring village of Eijgelshoven. The words 'bosch' and 'dorp' in these placenames stress the would-be rural character of the new settlements.

In the same way as the housing estates, almost all other sectors of public life were practically in control of a tightly organized and closed patronizing network of representatives of the local, provincial and national governments, the catholic church and the mine directors. Corporate life, education and town councils were likewise in the hands of the political, religious and economic elite. Unlike the western provinces, Limburg did not have anything like a democratic tradition with a broad popular basis; until the second part of the nineteenth century, its history was characterized by almost constantly shifting national borders, while it was the scene of many more wars than any other part of the country.⁵

3.2.4 Ongoing demographic developments. Employment

The waves of immigration caused by the dramatic imbalance on the labour market, had rigorous demographic effects. A telling example is the fact that in 1932 more than half of the pupils of the new elementary school in Lauradorp consisted of children of foreigners (Dieteren, quoted in Stijnen & Vallen 1981: 80). However, many of these immigrants were, together with more demanding local workers, the first victims of the mass dismissals during the depression years: between 7,000 and 9,000 non-Dutch miners were dismissed between 1933 and 1936 (Kreukels 1987; Provincial Information Office 1979: 1). Whereas in 1930 the proportion Dutch : non-Dutch personnel was, in absolute numbers, 37,504 : 11,969, eight years later it had changed to 32,119 : 3,766

⁵ See § 3.2.1 above. As Pover 1970: 52 puts it, especially in the eighteenth century the region served as an 'international battlefield'.

(Pover 1970: 268).⁶ Especially the number of Germans decreased significantly: in 1938 they formed 'only' 48.6% of the non-Dutch miners (Pover 1970: 269). These general developments are also visible in the figures in Table 3.2 above.

3.2.5 Further rise and sudden decline of the coal industry

After World War II, the Dutch economy which was expanding once again desperately needed coal. The mines continued to recruit labourers elsewhere (Stijnen & Vallen 1981: 82), mainly in southern Europe and northern Africa this time. In the fifties and sixties labourers were recruited mainly in Yugoslavia, Italy, Spain and Morocco.

Both before and after the War, labour in the coalmines was organized hierarchically and the chain of command was authoritarian (Breuer 1974: 8). In view of the work force and its morale, other industries, as far as they were not supply companies, were prevented from settling in the region. Consequently, economically the region developed a highly vulnerable monoculture, cf. Table 3.4:

	1909	1930	1947	1956
Old Mine D. agriculture	25.0	6.1	5.4	3.0
coalmining	?	?	40.3	44.1
New Mine D. agriculture	51.3	20.5	13.6	7.1
coalmining	?	?	25.0	34.4

Table 3.4 Developing economic monoculture of the region: percentage of labour force working in agriculture and coalmining; ? = no data (after Pover 1970: 44)

In 1963, 70% of the population of the Mine Districts was directly or indirectly dependent on coalmining (Provincial Information Office 1979: 1).

Seven years before, in 1956, international fear of a stagnation of the oil import, caused by the Suez crisis, resulted in a significant upstep of the production of bituminous coal. When in 1958 the Suez Canal was reopened, a large surplus of this mineral was the result (Backus 1988). The international coal crisis that followed affected the southeast Limburg industries very severely: some types of coal were no longer needed, exploitation generally was no longer profitable, import of American coal became less expensive and other sources of energy grew more important.

⁶ No information is available regarding the question whether the decrease in the number of non-Dutch labourers is due merely to dismissals or if (and if so: to which extent) it was also a result of naturalization.

The percentage of the labour force employed in the coalmines fell from 33% in 1958 to 24% in 1965 to 7% in 1971 to 5% in 1973.⁷ Between 1966 and 1976 all twelve mines were closed down, resulting in an immediate loss of at least 50,000 jobs. Many supply companies were forced to stop production as well. In agriculture in the same period more than 2,000 people lost their jobs (Breuer 1974: 109). Despite increased commuting, and notwithstanding the fact that the State Mines left behind a chemical industry in the New Mine District, providing work for 11,000 people (Paumen 1987), nowadays the unemployment rates are still higher than the national average. Due to the lack of jobs, many younger people move to other parts of the country, as a result of which the population is aging.

3.2.6 Recent socio-geographical developments

The ongoing secularization is another aspect that is relevant, and one that can only partly be considered as a result of these developments, for it occurs nationwide. For a region like south Limburg, which was practically unanimously catholic with all its para- and non-religious implications, however, this tendency is no less than dramatic.

The rapid transformation from the multi-generational family structure into the 'nuclear family' as the predominant way of living together (Clyne 1984), a transformation apparent also in this region, must likewise be seen as a very general development, an almost normal phenomenon in affluent society.

In contrast to secularization and changes in family structure, the suburbanization which is taking place in the former Mine District (especially in the Old part) is a consequence of the demographic effects of the industrialization. The enormous differences in distribution of the population between the beginning of the century and the time of the last, post-war boom of Dutch coalmining clearly show from the figures in Table 3.5 below.

According to Pover (1970: 47), in 1956 1.8% of the population of the Mine District lived in rural communities, whereas 56.8% lived in 'industrialized country'. For the same two categories the percentages for the Netherlands at large were 11.4% and 21.5% in 1975, and 11.5% and 23.0% in 1988 (CBS 1988: 65). At present, with respect to the number of inhabitants (n=267,034), the agglomeration Heerlen-Kerkrade ranks among the largest in the Netherlands. Its average density of population is around 1264 per square kilometre (national average 434/km²; source: CBS 1988: 65).

⁷ Following Breuer 1974: 32 and Breij 1981: 170. It is remarkable and rather poignant that recruitment of foreign labourers went on until the early sixties, when the prospects for Limburg coalmining were already bleak.

size of community in	1900		1953	
n population	O.M.D.	N.M.D.	O.M.D.	N.M.D.
< 3000	59.6	79.5	7.5	16.8
- 5000	-	-	5.6	12.9
- 10000	40.4	20.5	14.4	21.6
- 20000	-	-	13.7	-
- 50000	-	-	30.1	48.7
- 100000	-	-	28.7	-

Table 3.5 Relative distribution (in percentages) of the population over communities of differing size in the Old and New Mine District (Pover 1970: 27)

The suburbanization mainly resulted from the development of 'new towns'. In general, this community type may spring up either "where governments have deliberately created whole new urban areas in an almost virgin landscape [...] or where small towns have been deliberately expanded into much larger ones" (Trudgill 1986: 95). The 'new towns', or rather 'new villages' in the South-Limburg Mine District, needed for the newcomers attracted by the employment in the coalmines, predominantly had the second origin.

3.2.7 Rimbürg: the pre-industrial period

We will now zoom in on Ubach over Worms and especially Rimbürg and some of the developments which gave it its present form. Although nowadays Rimbürg is generally felt to belong to Ubach over Worms, this has not always been the case.

Rimbürg's history has been traced back to the Roman era, and even its Celtic-Germanic prehistory has been partly uncovered.⁸ The small village is situated near the banks of the small river Worm, which forms the natural frontier between the Netherlands and Germany for a few kilometres (see Map 3). From the early Middle Ages on, the Worm constituted also an ecclesiastical border, separating the dioceses of Liège and Cologne (H. Goossens 1981: 38, 58, 262). Hence in religious-administrative respects the region lay in the intersection of the French/Walloon and the German rather than in the Dutch sphere of influence.

⁸ See H. Goossens 1981: 9-16, which is the source of much of the information regarding local history presented here.

Rimburg owes its name as well as its former administrative autonomy to an old castle. This castle is mentioned in an anonymous medieval poem (we quote the version on the title page of Hanssen 1912):

"Rynckberg die Waterveste
 Erblehn der Mulrepach
 Der Borghen allerbeste
 Von Palembach gen Aach"

i.e.

Rynckberg the fortress near the water
 hereditary fief of the Mulrepachs
 the very best of the castles
 between Palembach and Aachen

'Rynckberg' or 'Rynckburg', which is 'ring(shaped) mountain' or more probably 'ring(shaped) borough', developed into the present-day Rimburg via $nk > \eta > m$. The latter change results from regressive place assimilation. The Mulrepachs or Mulrepases mentioned in the poem were a noble family that owned the castle from 1253 until 1323. Palembach, the present German village of Übach-Palenberg, lies less than a kilometre northeast of Rimburg.

Despite its (then) fewer than 300 inhabitants, until the year 1887 Rimburg formed a separate municipality⁹, the territory of which coincided with the former seigniory. Geographically, it consisted of the northeastern half of a stretch of about two kilometres long of a street running parallel to the river Worm. The neighbourhood forming the other, southwestern half of this part of the street, which was called Broekhuizen (German: Bruchhausen, dialect: /brɔːˈkɛlzə/), belonged to Ubach over Worms ever since the French introduced the now-common political-administrative system in 1795. As for the ecclesiastical aspect, until 1833 Rimburg was officially part of the parish of Waubach, whereas until 1802 Broekhuizen belonged to the parish of Eijgelshoven, south of it. From that year on, Broekhuizen also formed part of the parish Waubach (Hanssen 1912: 251). The distance from Rimburg/Broekhuizen to the old centre of Ubach over Worms is circa two and a half kilometres, which more or less equals the distance from Rimburg/Broekhuizen to the village of Eijgelshoven. From the year 1833 on, more than a century after Rimburg got a church building of its own, Rimburg and Broekhuizen together formed one parish, of in those days scarcely more than 500 souls.

⁹ The number mentioned by H. Goossens 1981: 144. According to the census carried out by the French administration in 1796, the municipality Rimburg had 330 inhabitants. Source: OCGL 1989: 86.

At the inhabitants' request¹⁰, Rimburch was incorporated into the municipality of Ubach over Worms in 1887. From then on, Ubach over Worms consisted of three parts: Waubach, Groenstraat and Rimburch/Broekhuizen. Nowadays almost nobody distinguishes the two formerly separate neighbourhoods Rimburch and Broekhuizen any more, as must have been the case some eighty years ago already (Hanssen 1912: 251). Accordingly, we will pay no more attention to this nearly forgotten distinction and use the placename Rimburch to refer to the entire part.

The local government of Ubach over Worms resided in Waubach. Economically, the municipality, and also the entire region, was almost exclusively oriented towards agriculture. The well-to-do part of the population consisted of a narrow top layer of farmers and their families, who, as far as Ubach over Worms was concerned, lived in Rimburch and in Waubach. Almost all other people earned their living in several insecure ways, mainly as day labourers and seasonal workers on farms and in factories across the German border (Breuer 1974: 7). According to Breij (1981: 33) in the year 1900 more than 9,500 Limburgers worked abroad. Until the turn of the century, trade (mainly pedlary) formed an important means of existence especially for many people from Groenstraat.¹¹ Others had a job in one of the coalmines on the other side of the German border; among them were many Rimburchers.

3.2.8 Rimburch: the years of the industrialization of the region and afterwards

In 1908 a start was made with coalmining in Eijgelshoven as well. From then on, increasing numbers of Rimburchers worked as miners at the 'Laura'. In 1929 a second coalmine was opened in Eijgelshoven, named 'Julia'. The total workforce of the two mines together amounted to 2,429 in 1935 (after Pover 1970: 23). Rimburch was rapidly transformed from an isolated agrarian into an 'open', industrialized community. From the thirties on, its population grew rapidly, a process which was accelerated by the improvement of the roads. Many people settled in Rimburch, not only because of the employment in the mining sector, but also because during the depression years transborder trade in its diverse fashions became highly lucrative (H. Goossens 1981: 272).

On December 31st, 1981, Rimburch had 950 inhabitants, while Ubach over Worms as a whole had 11,890 (official data). Most of the developments taking or having taken place in the Mine District at large can also be observed in Rimburch. Particularly striking is the rising average age of its population. This is partly a consequence of the fact that in Rimburch new building has largely been prohibited by the town-council, in

¹⁰ As H. Goossens 1981: 144 puts it, although the decision was not reached without problems. Some of those problems are highlighted in Hanssen 1912: 306-307.

¹¹ In this branch, which extended as far as central Germany, Luxemburg and the Brabantian Kempen (east of Eindhoven), the now extinct linguistic subsystem called Groenstraat-Bargoens developed. See Hinskens 1985c.

order to conserve the original rural character of the village. The present shortage of shops and certain medical and recreational facilities makes Rimborg somewhat less attractive to live in especially for younger people. The aging of the population (a fact of which remarkably many of the informants for the present investigation showed to be aware) manifests itself in, among other things, the fact that in 1986/87 Rimborg's elementary school had only 60 pupils, while there is no secondary school.

3.2.9 Recent administrative changes

Just like Rimborg was incorporated into Ubach over Worms about a hundred years ago, in 1982 Ubach over Worms in turn lost its administrative independence. With the neighbouring municipalities Nieuwenhagen and Schaesberg it was united into one new municipality. The result of the fusion was baptized Landgraaf, after the name of the remnants of an ancient, possibly prehistoric and very large moat, which must have run partly on the area of all three towns. In 1988 Landgraaf had 39,945 inhabitants, taking position 70 among the 180 Dutch municipalities with over 20,000 inhabitants (the total number of municipalities in the Netherlands being 714). Heerlen and Kerkrade, with which it forms one agglomeration, take positions 18 and 51, respectively, with 94,321 and 52,984 inhabitants (CBS 1988: 64-67).

3.3 The dialect situation

3.3.1 Introduction

Coalmining in the southeast of Limburg declined even more rapidly than it had emerged. Its short life coincided with a period of acceleration of other developments taking place generally, such as in the field of transport and infrastructure. This interaction of region-specific and more general developments led to socio-demographic changes (sketched in the preceding section) that are probably unparalleled in the recent history of the Netherlands. The sudden and anything but gradual transition from a basically agrarian into an industrial society not only had structural socio-demographic consequences of a quantitative kind. The qualitative consequences, which come down to a large-scale reshuffling of the population structure (with respect to e.g. origin, socio-economic structure, culture), may in the long run turn out to be even more important. In short, the enormous growth of and shifts in population that occurred in a period of about fifty years have made the Mine District an as yet scarcely explored natural laboratory for social change.

Social processes may cause or at least speed up cultural changes. Since linguistic systems are to an important extent cultural phenomena, the obvious question is whether the dialects display changes that can be related to these disproportional

socio-demographic developments. In this connection, a possible development would be something parallel to Trudgill's (1986: 110) "linguistic urbanization: the growth [...] of urban dialects through the mixing of (usually) closely related rural dialects from different parts of an expanding city's hinterland". Such a development may result from the general fact that "in-migration from adjoining rural areas can be of some linguistic consequence, particularly when allied to partial accommodation on the part of adults." Our expectations regarding the process of dialect levelling were presented as hypotheses I, II and III in Ch. 1 above.

In order to be able to assess any dialect changes at all, we should first have a sufficient notion of the 'original' status of the dialect (not as a point of reference in the technical sense, however - see § 4.1 below). In this section we will present a rough dialect-geographical outline of the Ubach over Worms dialects, and especially of the Rimbürg one. This general sketch will then be refined in structural-linguistic terms in Ch. 5.

3.3.2 Some diachronic developments and their dialect-geographical reflections

Historically, Dutch and German are closely related, having common linguistic ancestors. Dialect-geographically, a clear dividing line or even a transition zone between both diasystems does not exist. As J. Goossens (1970) points out, historically three types of differences between Dutch and German dialects can be distinguished:

1. differences deriving from the fact that specific linguistic elements or structures in the German 'cluster' [my terminology, FH] underwent changes that did not occur in the Dutch one;
2. differences deriving from the fact that the Dutch 'cluster' underwent certain changes that the German one did not undergo,
3. differences which stem from the fact that both 'clusters' underwent different changes.

In the present subsection we will concentrate on differences of the first type. From this perspective, present-day Dutch might be considered as representing the so-called Lower-German type with respect to an important historical development. This development, which is usually referred to as the Second or High-German consonant shift, consisted among other things of a change of voiceless stops¹² into affricates or fricatives in specific positions. The relevant bundle of isoglosses cutting through the German language area on the east-west axis is seen as *the* dividing line between the aforementioned High-German (which *did*) and Lower-German dialects (which *did not* undergo this change. Standard German is basically High-German in this and in almost

¹² It also affected voiced stops, but here the development was limited both geographically, so that only a subgroup of the dialects that underwent the shift of voiceless stops also shows the shift in voiced stops, and phonemically: in these dialects only /d/ was systematically affected in that it changed into /t/ - see Wolf 1983: 1118.

all other respects). Among the High-German dialects are those of the Franconian group.

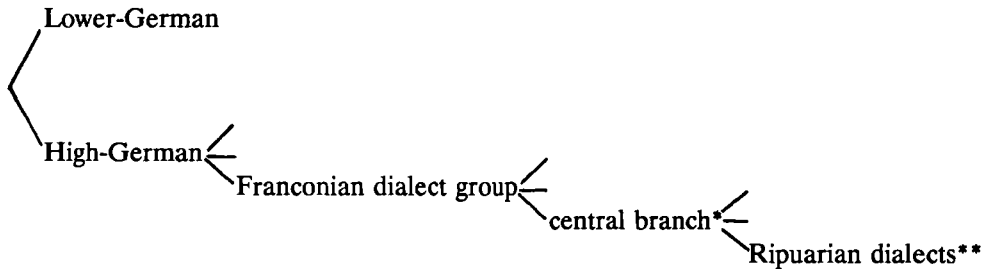
The part of the Rhine-area between Speyer and Duisburg, however, forms the famous transition zone known as the 'Rhenish fan'.¹³ Here the imaginary line, which is formed by the "running more or less parallel to one another and occasionally even coinciding" (Chambers & Trudgill 1980: 107) of the isoglosses which divide High- from Lower-German dialects, is scattered as far as the /p t k/ : /(p)f (t)s x/ correspondence is concerned.¹⁴ South and east of the fan, the whole trio has originally been shifted virtually exceptionlessly; moving to the north, the number of shifts decreases depending on the position and/or the word (class) (Wolf 1983: 1118). In the west, the border between the High- and the Lower-German dialects does not reach the border between Roman (i.e. French) and German languages as a single line. The Rhenish fan is formed by the two core branches of the dialects of the aforementioned Franconian group. The dialects of what is nowadays Dutch- and Belgian-Limburg also form part of this fan or delta, as the Limburg dialects display characteristics of the present-day High-German dialects to varying degrees. Prior to the relevant developments, however, these Limburg dialects already existed independently - to put it naively.

For centuries, the German city of Cologne (German: *Köln*; Dutch: *Keulen*), on the west bank of the river Rhine, has been a very important centre especially in economic and cultural respects. In times when the power of the church extended much further into secular life than it does nowadays, Cologne was the centre of a diocese, the western border of which partly coincided with the small river Worm, which almost runs through Rimbürg (see § 3.2.7 above, and Map 3). Because of its importance, Cologne also developed into a weighty centre dialectally. Consequently the relevant areal diffusion of linguistic features became known as the 'Keulse Expansie' or 'Kölner Kulturkreis', i.e. Cologne cultural zone (Aubin et al. 1926: 156 ff.). This 'Keulse Expansie' coincides for a large part with the delta called 'Rhenish fan'. The core of the 'Keulse' part of the Rhenish fan constitutes the sub-branch of the Franconian group that became known as the Riparian dialects (< Lat. *ripa* 'shore', 'bank', i.e. of the Rhine river). Rather tellingly, this branch is sometimes referred to as 'Landkölnisch', i.e. the varieties of the Cologne dialect spoken in the country, which differs slightly from 'Stadtkölnisch', the variety spoken in Cologne itself (Münch 1904: 3 ff.). Initially, the Riparian dialects did not undergo the Second or High-German consonant shift. In a later phase, however, they *did*, although incompletely so.

¹³ See e.g. Bloomfield (1933: 343-345); Bach (1934, especially the map on p. 86); Chambers & Trudgill (1980: 105-7); J. Goossens (1965 passim, especially the map on p. 81; 1970: 65); Wolf (1983: 1118).

¹⁴ In most dialect-geographical classifications, the High-German dialects are further divided into Middle- and Upper-German ('Mitteldeutsch' and 'Oberdeutsch' - e.g. Münch 1904; König 1978; Wiesinger 1983). In such classifications, the dialects spoken in the area of the Rhenish fan belong to the Middle-German group.

With considerable simplification, for the German 'line of descent' the relevant part of the taxonomy can be visualized as in Figure 3.1.



- * 'Mittelfränkisch' dialects. Other branches of Franconian are 'Ostfränkisch', 'Rheinfränkisch', and 'Niederfränkisch' (Wiesinger 1983). 'Rheinfränkisch' and 'Mittelfränkisch' coincide areally with the Rhenish fan
 - ** form the core of the 'Keulse Expansie'
-

Figure 3.1 The position of the Riparian sub-branch in the German Family Tree

As can be seen in Map 2 above, the westernmost 'slice' of the Riparian dialect area is Dutch: it encloses the southeasternmost strip of the province of Limburg and of the Belgian province Liège and the district Eupen (Langohr 1936). The best-known representative of the Riparian group spoken in the Netherlands is the dialect of Kerkrade. The 'peel' surrounding this westernmost (and, as we have just seen, geographically partly Dutch) slice of the Riparian dialect area is formed by a transition zone. The several local dialects spoken in this zone display Riparian characteristics to a varying degree, but essentially they are Limburg dialects. The dialects in the area immediately to the west of this transition zone, finally, are usually called the East-Limburg dialects.¹⁵ See Map 2.

In other words, most of the dialects in the south of the Dutch province of Limburg (e.g. those spoken in Sittard and Roermond) are East-Limburg dialects. East of these there is a long and relatively narrow dialect-geographical transition zone (of which Heerlen is a part) and even further to the east, along the German border, there is a still narrower strip of 'true' Riparian dialects. The isogloss-bundle hedging off the latter is called 'Benrath line' (Bloomfield 1933: 343). This isogloss-bundle is

¹⁵ The Central and Western Limburg dialects are spoken mainly in what is nowadays Belgium, as well as in the northwestern part of the Dutch province Limburg, more specifically in the region east of the Brabant dialect area. The Limburg dialects form part of the 'süd-niederfränkische', the Southern-Lower-Franconian, group (J. Goossens 1965, especially the map on p. 83; 1970, *idem* p. 66; cf. Winkler 1874: 269, 294).

generally considered to form the western limit of the Second or High-German consonant shift. West of this line the consonant shift appears not or hardly to have taken place, since it occurs only in a limited, very small lexical set. It would be more to the point to say that the lexical diffusion of the historical shift from [-cont] in stops /p t k/ to [(-cont) +cont], i.e. to /(p)f (t)s x/, increases gradually but drastically if one moves southeastward from (1) the Limburg dialect area and (2) the transition zone via (3) the Ripuarian dialects (east of the Benrath line) to (4) the other Franconian dialects spoken in the German part of the Rhenish fan to (5) the 'true' Franconian dialects to (6) the High-German dialect group as a whole.

Whereas the dialect spoken in a place like Sittard belongs to the East-Limburg group, Heerlen lies in the transition zone¹⁶ - and so does Ubach over Worms, with the *exception*, however, of *Rimburg*. The Benrath line runs west of Rimburg, but east of Waubach and the Groenstraat (cf. H. Goossens 1981: 574¹⁷). This is in fact less exceptional than it may seem. Bloomfield mentions the case of the German village of Kaldenhausen, which is divided by the northernmost isogloss bundle of the Rhenish fan: "along the lower Rhine, just southwest of Duisburg, the town of Kaldenhausen is cut through by a bundle of isoglosses: the eastern and western portions of the town speak different dialects" (1933: 326, cf. 344).

By way of a first short illustration, Table 3.6 describes the distribution of two phonological dialect features through the southeast Limburg space. (A, B and C stand for the three types of Limburg dialect to be distinguished in this study; their geographical base is indicated on Map 2.)

The table shows that in some respects the dialects in the transition zone behave like Ripuarian dialects (i.e. in some respects the Waubach/Groenstraat varieties behave like the Rimburg one), in others they do not and belong to the East-Limburg group instead.

As is usually the case, the structural variation between dialects is largest in phonology.¹⁸ Morphologically, the linguistic fragmentation is clearly less in this region, but still analogous cases exist.¹⁹

¹⁶ Which is why Jongeneel 1884: XXII calls it a gradation of the dialect of Cologne, further to the east.

¹⁷ The author also describes the Dutch part of the route of this important isogloss bundle. If one compares this to Jongeneel's (1884: XXII) description of the course of the line, it seems that it moved slightly eastward in the past hundred years. Jongeneel's formulation is vague, however; did the line run east or west of Waubach, Nieuwenhagen and Schaesberg? Moreover, it is rather difficult to check how reliable Jongeneel's description was.

¹⁸ Observations of this general kind and other issues related to 'structural distance' can be found in Hinskens 1988.

¹⁹ Some of which will be described in more detail in Ch. 5, where a broad constellation of features of the Rimburg dialect will be presented. Of each feature the relative geographical spread will be indicated.

C East-Limburg (e.g. Sittard)	B transition zone (e.g. Heerlen; Waubach/Groenstr.)	A Ripuarian (e.g. Kerkrade; Rimburg)
p; t; k		
	/ʎlo· ^ə pə/	/ʎlo· ^ə fə/ 'to sleep'
	/pi: p/	/pi: f/ 'pipe'
	/tit/	/tsit/ 'time'
	/wa·tə _R /	/wasə _R / 'water'
	/ho: t/	/ho: ts/ 'wood'
	/makə/	/ma·xə/ 'to make'
	/da: k/	/da: x/ 'roof'
... Voc(:) R obstr ..		
/kə _R t/	/kə ¹ t/	'short' adj.
/ko· ^ə rt/	/ko· ^ə t/	'cord, string'
/pe: ^ə rt/	/pe: ^ə t/	'horse'

Table 3.6 The distribution of two dialect features through three types of dialects spoken in South-Limburg

The Limburg dialect area as a whole²⁰ constitutes an excellent example of Chambers & Trudgill's carefully expressed claim that "if we travel from village to village, in a particular direction [in this case, southeastward - FH], we notice linguistic differences which distinguish one village from another. Sometimes these differences will be larger, sometimes smaller, but they will be cumulative" (1980: 6). The place of 'origin' of very many features distinguishing Limburg dialects is Cologne. The 'Keulse Expansie' of historical changes which froze as dialect features took place in a series of waves of different strengths: some of them must have been so strong that the resulting dialect feature almost reached the dialects in the north of the province Limburg. Of the concentric isogloss circles around Cologne, the outmost one is bound in the west by the Peel, an extensive, age-old fen area. Until the beginning of the twentieth century, this area constituted a geographical boundary (Notten 1974: 44) and thus

²⁰ That is, as far as the Dutch province of Limburg is concerned. The present author is not sufficiently informed about the dialects of Belgian Limburg. For ease of reference we will nevertheless keep to 'Limburg' *tout court*.

determined the western periphery of the 'Keulse Expansie'. This line, "the isogloss of northern [k] versus southern [x] in the word *I* swerves off northwestward, crossing the Rhine just north of the village of Ürdingen, and is known accordingly as the 'Ürdingen-line'" (Bloomfield 1933: 343-44). It is the same isogloss that divides the town of Kaldenhausen, "into a western section which says [ex] and an eastern which says [ek]" (344). This isogloss delimits the northernmost spoke of the Rhenish fan. Other waves of linguistic change which diffused from Cologne outward, however, expanded less far, while still others expanded only little beyond the western limits of the Ripuarian group, and hardly passed the already mentioned Benrath line. According to the German dialectologist Bach (1934: 38, 89-93), the phase of the 'Keulse Expansie' that consisted of the penetration of linguistic features into the dialects west of the Benrath line must have taken place from the 14th century onward, eventually even decreasing the linguistic influence from the cities in the North-West of the Netherlands in the 16th and 17th centuries (the 'Hollandse Expansie' - Kloeke 1927).

Of the four 'causes' of difference between dialects distinguished in early generative phonology (the addition, the deletion/loss or the internal change of a rule or the reordering of rules - see e.g. Trommelen & Zonneveld 1979: 140, 150-56), in the Limburg scenario rule addition seems to have been predominant, with Cologne as the historical 'source'. Seen from the perspective of Cologne, most features of Limburg dialects are ordered on an implicational scale, in that the presence of a certain feature implies the presence of all features that are geographically more diffused. If one imagines the dialectal landscape three-dimensionally with each dialect feature adding height, then Limburg forms the northwest slope of a mountain with Cologne as its main top. Indeed, the metaphor of a slope is quite adequate, since the Limburg dialect area in general hardly shows any abrupt changes between areas, more a gradual shifting with no clear-cut breaks (cf. Aitchison 1981: 50). As a consequence, the Ripuarian-East-Limburg and, even more so, the Ripuarian dialects are generally far less comprehensible to non-Limburg speakers of Dutch than the East-Limburg dialects. By all criteria, of the multitude of dialects spoken in the Netherlands, these display the greatest structural distance from the standard variety.²¹

With respect to Ubach over Worms and especially Rimburch, we can therefore rightly speak of a 'divergent dialect community', i.e. an area where there is a considerable structural distance between the local dialect and the standard language (cf. Trudgill 1986: 91). At the same time there are clear structural differences between the local dialect and other Limburg dialects. In a place like Rimburch the investigation of dialect levelling can be very rewarding, since there is "sufficient linguistic distance between the [...] dialects in the contact situation" to be levelled away (Trudgill 1986: 95). The geographical situation of Rimburch on the border of the Dutch and the

²¹ See, for example, Van Hout & Münstermann 1981: 107, 112 ff.; Hoppenbrouwers & Hoppenbrouwers 1988: 84-86.

German language areas has the additional advantage that, as far as other varieties of Dutch are concerned, the linguistic 'influence' -so to speak- can come only from one direction.

3.3.3 Recent changes in the position of the dialect

In south Limburg, Dutch has been the standard language only since the second quarter of this century. Until then, German fulfilled this function - as did French, at least in Maastricht. It might be better, however, to use the notion H-code in this connection (cf. Ferguson 1959). According to Jongeneel (1884: XXI, XXIII), German was the language used for preaching and praying in Heerlen one hundred years ago. Collon (MS) claims the same for Rimburch in the first decades of our century. The use of German for religious purposes may have been partly due to the fact that the diocese Cologne was about as near as the diocese Liège (see §§ 3.2.7 and 3.3.2 above). Since the clergy also played an important role in education, German was used in schools as well. This situation began to change around 1925, although in some places not before 1944.²² According to Pover, southeast of the line Gulpen-Heerlen as well as in the region of Sittard, that is, in the southeast of the province, in those days most people were more fluent in German than in Dutch. It is no wonder that south Limburg was a solid stronghold of the dialect ("vaste dialektburcht"), as Van Ginneken put it at the beginning of our century. He added that the dialect barely underwent any influence from the Dutch standard language (Van Ginneken 1916: 3).

Nowadays by far most people have control over standard Dutch at least adequately for communicative purposes. With respect to the Mine District, Stijnen & Vallen (1981: 54) use the notion 'homogeneous bilingualism' to indicate that speakers generally control both their dialect and the standard language.²³ As Weijnen (1967) reported, some twenty-five years ago in Heerlen

- 26.8% of a sample of 2,635 children used to speak dialect when playing in the street;
- 40.1% of the children usually talked dialect to their father;
- 50.3% of the parents of these children spoke dialect to one another.

All three percentages are lower (in most cases even much lower) than those for nine other places in several parts of the Dutch province of Limburg (Weijnen 1967: 20 ff.). It seems plausible that the exceptional socio-demographic developments that took place in the Mine District can be held partly responsible for this situation. It should be added that for decades in Heerlen the position of the dialect has been especially marginal. This is undoubtedly related to the fact that Heerlen, as the centre of the mining industry, attracted disproportionately large numbers of settlers. Despite the lack

²² Breuer 1974: 7; H. Goossens 1981: 573; Pover 1970: 65.

²³ As against the community type where most individual speakers have only one of the relevant linguistic systems at their active disposal, a situation referred to as 'heterogeneous bilingualism'.

of more recent and more exact, reliable figures for the Mine District regarding code choice in a wider variety of domains, we can safely assume that overall in this region the dialect is losing ground functionally in favour of the standard language.

The findings reported on by Weijnen point to an important general difference concerning the social position in our research area between German at the beginning of our century and the Dutch standard language recently: whereas German was reserved (although it was not the only permitted medium) for a few formal, maximally public domains and thus served as an H-code, the use of Dutch nowadays is not situationally restricted at all. This means that generally the dialect and the standard language are more or less competing codes, even if, as is usually the case nowadays, something like a broad situational partition has developed. This partition comes down to a tendency to reserve dialect use for more intimate spheres and choose the standard language in more public domains. The two complexes of association might be referred to with notions like

- intimate, informal, relational, predictable, small-scale, solidarity and sentimentalism versus
- distant, formal, transactional, unpredictable, large-scale, status, instrumentalism, respectively.²⁴

The intrusion of the standard language, not in the least in socialization, might affect dialect structure and thus be a factor leading to change and/or levelling.

The settling of people from other Dutch provinces was an important factor in the emergence of the standard variety in the former Mine District. However, at present the influence of the standard variety mainly results from the cultural expansion of the big cities in the western part of the country. Apart from the standard language, other Limburg dialects nowadays exist side by side with the original dialects. The coexistence of other (East- and Central-) Limburg dialects mainly results from the relocation of speakers, mainly of former settlers who had found a job in the coalmines.

Whatever its impetus and direction, dialect levelling does not go entirely unnoticed and is sometimes lamented. One of the more dramatic sighs regarding the Rimborg dialect heaved during one of the recording sessions for the present study was:

"...but that language is ruined all the same, isn't it. In former times, they used to talk entirely differently, the people, didn't they."
(inf. 16; my translation - FH)

In its moderate despair, this is an example of an emotional utterance regarding structural dialect change in the oral materials collected for this study. It is far from

²⁴ Partly after Geerts c.s., as quoted by Van Hout & Münstermann 1988: 107, 121. For more detailed remarks as well as research findings on an instance of this gradual type of dialect shift, see also Cucchiariini & Hinskens 1988.

unique. Of the 27 dialect speakers who were recorded for the main part of this investigation, 13 somehow signalled (without having been asked to do so) and extensively commented on such changes.

Chapter 4

Methodological aspects

4.1 Operationalization of the hypotheses; the design of the investigation

In Ch. 1 we developed a sociolinguistic model of the process of dialect levelling. From this model, three hypotheses were derived. In this section, we will consider how these hypotheses were operationalized in order to deduct an empirical model from the conceptual one. This empirical model of dialect levelling was investigated quantitatively. The way we have done so will be introduced step by step in the remaining sections of this chapter.

Central to the operationalization of the hypotheses are independent variables of four kinds that will be systematically varied in the data to be investigated. These variables are

- a. age group of the speakers - in an otherwise relatively homogeneous sample;
- b. in- vs. out-group contact;
- c. the geographical dispersion of specific dialect features;
- d. linguistic dimensions relevant to the dialect features.

Comparison of the proportions of the use of the dialect features (the dependent variables) in the several conditions defined by the independent variables will enable us to test the hypotheses, and hence our model.

The first of our three hypotheses, which says that dialect levelling affects variation on the dialect - standard language level as well as variation across dialects, is the most easily testable one. Testing it merely requires a comparison of the use of dialect features that distinguish the dialect from the standard language (but not from the relevant other dialects) with the use of features that distinguish dialects. We will return to this issue in connection with the operationalization of hypothesis II.

Comparison of the use of dialect features as such, however, does not yet reveal dialect levelling. Dialect levelling is a dynamic phenomenon, so in order to make it visible dialect use should be related to time. The parameter *time* has been operationalized as apparent time. This approach is based on the assumption that after adolescence an individual speaker's language use no longer undergoes drastic changes.¹ This assumption of what may be called 'linguistic stabilization' enables one to detect language change (or dialect levelling, for that matter) synchronically by comparing speakers of different age groups, provided the relevant synchronic variation between

¹ Cf. Labov 1981: 180-82. The assumption seems to underly claims like: "speakers of Frisian do not change, they die out" (De Haan 1988: 17 - my translation, FH). The assumption is challenged by the outcomes of the comparison of aspects of the vowel system of four speakers of Montreal French in 1971 and 1984 (Yaeger-Dror 1989). Rosenkranz' 1963 real time study revealed that the dialect use of one-time informants for the *Deutscher Sprachatlas* had returned to an 'older' stage.

age groups does not reflect age grading. The risk of this being the case in the present study is not as great as might have been the case otherwise, since the researcher is familiar with the dialect concerned, being a native speaker of the contiguous Wau-bach/Groenstraat dialect variety. Our use of the apparent-time approach consisted of comparing the dialect use by speakers of three age groups: 'older', 'middle' and 'younger' (see § 4.3.1 for more details). An issue of great importance especially with respect to processes like language and dialect loss is the point of reference (Jaspaert et al. 1986). We took the oldest speakers' dialect use as the point of reference - hence not some ideal-typical 'pure' dialect.

Dialect levelling, then, is operationalized as a significant apparent time reduction of the structural variation between language varieties. This may take place either through the decreased use of features separating one dialect or group of dialects from all others, or through the increased use of geographically widespread dialect features. Significant apparent time reduction of variation across language varieties is a *sine qua non* with respect to levelling in relation with other parameters.

Our second hypothesis claims that dialect levelling is gradual in linguistic as well as in extralinguistic respects. The extralinguistic parameters involved are time and space. In the preceding paragraphs we pointed out the time dimension. Dialect-geographical *space* is operationalized through the areal spread of the dialect features studied. Our selection of features of three degrees of geographical spread does some justice to the parameter space, which, as J. Goossens (1986 *passim*) points out, is a factor that is typically overlooked by sociolinguists. We chose dialect features that gradually differ as to their areal spread; the three degrees of areal spread that can be distinguished will be referred to as A (smallest), B and C (widest), a convention we introduced in § 3.3.2. The peripheral and highly divergent Rimbürg dialect is characterized by features of all three types. The standard language, on the other end of the scale, by definition does not have any of these features. In between, dialects can be found that do not have A-type features, as well as dialects that lack both A- and B-type features. The Rimbürg dialect, along with the other dialects of Dutch that belong to the Riparian group, will henceforth be called A-type dialects. The dialects that are spoken in the Riparian-East-Limburg transition zone will be referred to as B-type dialects, and those of the 'true' East-Limburg cluster as C-type dialects. See the scheme in Figure 4.1.

The aspect of the design in Fig. 4.1 enables us at the same time to implement the distinction between dialect - standard language variation and interdialectal variation, which is necessary to test the first hypothesis. With respect to the parameter space, our second hypothesis predicts a specific relationship (interaction) between the age group of the speakers and the degree of dispersion of the dialect features: the smaller the geographical spread of a dialect feature, the sooner it will undergo a decrease in use.

		dialect type			standard lang.
		Rip.	trans.	East-Limb.	
		A	B	C	
feature type	A	+	-	-	-
	B	+	+	-	-
	C	+	+	+	-

Figure 4.1 Three dialect-geographical types of dialect features

Nothing general can be said here about the operationalization of the *linguistic dimensions* along which dialect levelling is claimed to proceed gradually, because they are for the most part specific to the several dialect features. In a number of cases they will be shown to be relevant to the phonological model, in that the patterns of dialect levelling in the conditions (contexts) relevant to the linguistic dimensions concerned can be seen as either positive or negative evidence for the model as such. The nature of the interaction to be expected between the age group of the speakers and linguistic structure will be elaborated on mainly in the sections where the relevant findings are presented. Even in the cases where there seemed no reasons to expect levelling to be internally directional, the data have been collected in such a way that they permitted testing the broad claim that dialect levelling is structurally gradual. Relating dialect levelling to the linguistic dimensions relevant to the dialect features also allows testing hypotheses deduced from the phonological model sketched in Ch. 2.

The third hypothesis says that the long-term process of dialect levelling is foreshadowed in accommodation in dialect use. Accommodation is a pre-eminently interactional phenomenon. An appropriate way to study accommodation in linguistic behaviour empirically is to analyse interactional language use in situations of contact between speakers who perceive their language use as different. In order to determine whether, and if so how, a speaker accommodates his language use, one must know how he 'normally' speaks, i.e. what his language use is like in his day-to-day interactions with speakers of the same linguistic background.

In order to study accommodation in dialect use, we collected samples of two types of interactional dialect use by the same speakers: in interaction with a speaker of the same, i.e. Rimburg, dialect (in-group) and in interaction with a speaker of another variety (out-group). Comparing in-group dialect use with dialect use in out-group contact situations should then enable us to trace accommodation. The meaning of the notion accommodation here has been restricted to convergence; it is operationalized

as less use of the dialect features that are not shared by the two varieties involved in an (out-group) contact situation. After all, the use of those features in such a situation would cause 'dissonance'. Three different types of out-group contact situation were created, the essential difference between them being the contact variety, i.e. the variety spoken by the interlocutor. Thus our Rimbürg dialect speakers talked to a speaker of either a B-type or a C-type dialect (see Fig. 4.1 above) or of the regional variety of the standard language.

In other words, for our study of accommodation, we constructed a design which enabled us to compare interactional dialect use realized in different *contact situations*. In these contact situations, the speech variety of the interlocutor² was systematically varied. The dimension on which these varieties differed was their distance from the Rimbürg dialect.³ We thus proceeded in two steps. First, interactional dialect use was recorded in both in-group and out-group contact situations. Secondly, out-group contact situations were created such that the distance between the variety spoken by our subjects and the one spoken by their interlocutors takes on three, gradually differing, values. This procedure makes it possible to relate dialect use

1. to the in-group/out-group-character of the contact situation; if there is any difference, it can be related
2. to the distance between the Rimbürg dialect and the out-group variety that the speakers were exposed to.

On the first level of analysis, accommodation will be brought to light. On the second, more specific, level of analysis, accommodation can be related to the distance between the varieties involved in the contact, and hence to the dimension dialect-geographical space.

Testing the third hypothesis then amounts to comparing the patterns of accommodation in dialect use with those of the process of dialect levelling. As was pointed out, the latter will hopefully be detected by comparing the speech of representatives of the different age groups, the apparent time method, pithily referred to as the 'micro-diachronic' approach by Rindler-Schjerve (1987: 293).

Preceding the study of the spontaneous, interactional dialect use, we will look for apparent time traces of dialect levelling in a large corpus of dialect use gathered with the aid of structured *elicitation* techniques. The battery of tests that were developed to this end was administered with each speaker individually.

The different nature of the four independent variables illustrates the hotch-potch character of our conception of the phenomenon of dialect levelling, in which dialecto-

² Other, more remote, audience roles (see e.g. the typology presented by Bell 1984) are of little relevance to the design of the present investigation.

³ As was shown in § 3.3.2 above in connection with the so-called 'Keulse Expansie', in the case of the dialects spoken in Limburg, structural distance and geographical distance (at least on the northwest - southeast axis) maintain a strong, positive correlation.

logical (c), sociolinguistic (a, b) and internal-linguistic (d) factors are all at work - each in their own specific way.

A more detailed account of methodological, technical and practical aspects can be found in the following sections.

4.2 The selection of linguistic variables

In the previous section, attention was focused on the derivation of the independent variables from operationalizations of the hypotheses; in the present section we will account for the selection of the dependent, linguistic variables. First, the notion of linguistic variable will be defined and related to the aims of this study. Then the considerations which determined the selection will be made explicit (§ 4.2.1). After a sketch of the materials on which our selection was based (§ 4.2.2), both practical and theoretical problems will be briefly discussed (§ 4.2.3). The variables finally selected will be listed in § 4.2.4 and presented in the next chapter.

4.2.1 Linguistic variables: a definition and the criteria for selection

The notion of linguistic variable (henceforth LV) is used to refer to linguistic entities which are "the same' thing" (Labov 1972a: 188) semantically or at least functionally, but which have several different realizations, called the variants. Holmquist (1988: 3) defines linguistic variables as "sets of competing forms, usually called variants". One of the variants or (in the case of continuous variables) one pole of the scale constituting an LV is the feature of the dialect concerned. For example, one of the LVs investigated in this study is the alternation between /ɣ¹/ and /j/ in syllable-initial position, occurring in the dialect spoken in Rimburg (as in all dialect-geographically 'true' Riparian dialects) but not in the other dialects spoken in Ubach over Worms, which have only the /ɣ¹/-forms in the relevant cases. We now refer to [ɣ¹] ~ [j] as an LV, and to the variant /j/ as a dialect feature.

In our brief description of the LVs in the form of "correspondence rules" (Schatz 1986: 61), to be presented in Ch. 5, we will try to avoid two inaccuracies which are not uncommon in sociolinguistic studies of language variation:

- the over-generic formulation of LVs, which occasionally looks almost Neogrammarian in its disregard for the sort of internal variation which may result from e.g. lexicalization and subsequent lexical diffusion, and
- the practice of choosing without further motivation the standard language as the frame of reference (i.e. 'zero-line' of comparison).

The structural distance between the Rimburg dialect and the standard language, and thus the set of LVs in the dialect-standard language dimension, is so big that choosing a number of LVs as dependent variables seems unproblematic. The 'theoretical'

requirement of explicitly taking account of the geographical dispersion of dialect features as an independent variable, however, forces us also to study LVs separating -so to speak- related dialects. This constitutes an extra argument against keeping to the second sociolinguistic practice referred to without a second thought.

The latter considerations bring us to the first of the four criteria for the selection of LVs for our investigation. The LVs had to represent the Rimbürg dialect; at the same time they had to represent several values of the parameter dialect-geographical space. LVs with three degrees of geographical spread had to be investigated: set A should comprise only the features that separate the Rimbürg (Ripuarian) from the Waubach and Groenstraat (Ripuarian-East-Limburg) dialects. Set B should consist of the features that distinguish the Ripuarian and Ripuarian-East-Limburg dialects (all dialects spoken in Ubach over Worms) from the East-Limburg dialects (represented by the dialect of Sittard). The features in set C contrast the Limburg dialects as a group with the standard language. The cumulative nature of the Limburg dialect landscape (sketched in § 3.3.2 above) and the exact selection which was finally made has the result that the dialects of the A-type have features of the A-, but also of the B- and C-type. Dialects of the B-type are characterized by B- and C-features; of the total set, C-dialects only have C-features.

The selection of LVs also had to satisfy the requirement that the phonological, the morpho-phonological, the morphological and the morpho-syntactic components were represented - to the extent that they are at all present in the A-, B- and C-parts of the entire set of LVs.

A third criterion adopted for the selection of LVs was structural coherence, at least between some of the LVs selected. The last, but certainly not the least important criterion was a reasonable average frequency of use ('real life frequency' - Lambert & Moore 1986: 180).

Whereas the first criterion is necessary to test the sociolinguistic model, the second and the third criteria were needed to guarantee a certain generalizability to the dialect as a linguistic system. The fourth criterion is a practical one: investigating LVs that are interesting but infrequent in use, as is generally the case with syntactic variables, requires much material and is therefore relatively time-consuming.⁴

In general, criteria two and four, i.e. representation of phonological and morphological components and subcomponents on the one hand and frequency on the other, are highly compatible (cf. Mackey 1965: 172). However, in certain respects some of these criteria may be incompatible - as may be the case with the two criteria mentioned by Hudson (1980: 141): on the level of the LV, "the frequency requirement

⁴ A survey of the considerations playing a role in the selection of LVs in variationist sociolinguistics is presented in Hinskens 1986b. As it almost exclusively appeals to practical criteria, sociolinguistic practice in this respect generally seems to be much closer to applied linguistics (e.g. Lambert & Moore 1986: 178-81) than to theoretical research.

tends to rule out the study of individual words, except for those like pronouns which occur very frequently". But individual words, especially heteronyms, do meet the criterion of recognizability, as the variants are easy to identify. In our research area the amount of lexical variation is relatively large, especially on the dialect-standard language dimension, and interesting shifts are taking place in specific cases. For instance, the older dialect variant for the adjective 'clear, light' is /klo-^əR/ and the older dialect variant of the adverb 'ready' is /ve-^ədiç/. Possibly partly under the pressure of the standard language, which has the forms /liçt/ or /lɪxt/ and /kla-^r/ respectively, recently /liç/ and /klo-^əR/ have emerged as dialect variants. Several similar examples could be added. Lexical variation was nevertheless excluded from our investigation because of the second and fourth criterion mentioned above. An additional reason was the consideration that both linguistically and psychologically the lexicon seems essentially different from phonology and grammar, which has important methodological consequences. (See Hinskens 1986c for more details and some proposals.)

The relative vulnerability of dialect features did *not* and could not play a role in the selection: without a profound preliminary investigation, there is no way of knowing in advance what the relative vulnerability of each dialect feature is. Moreover, the issue itself is part of the set of questions that this investigation intends to answer.

4.2.2 A sketch of the materials on which the selection was based

Older questionnaires and descriptions as well as recent recordings served as a material basis for the selection. Moreover, the investigator could rely upon his knowledge of the Ubach over Worms dialects. Thanks especially to the latter fact, there was no need to resort to pseudo-experimental explorative procedures for 'isolating' LVs like those described in Carlock & Wölck (1981).

The older materials consisted almost exclusively of dialect-geographically comparative studies and monographs. Before we introduce them, mention should first be made of a philological curiosity:

- *Rede über die Aachener deutsche Sprache. Inter omnes linguas, lingua aquisgrano germanica praeelsior* (Speech on the Aachen German language. Of all languages, the German language spoken in Aachen is the most preferable/excellent one). In this anonymous text, the superb qualities of the Aachen dialect are (ironically) praised, and the listeners or readers are summoned to speak it properly and to avoid using words and turns of phrase from other languages, such as High-German or French or English. The text is evidently written in the local dialect and dates from the 18th century, although it is not clear which part of the century: a 'translation' into the Maastricht dialect is dated 1729, but according to the editor Pik, the (original) Aachen version stems from the second half of the 18th century. Among the works studied for this investigation, this text is the only one that does not have a scholarly purpose.

Of the other materials studied, first the comparative works will be briefly sketched.

- The oldest work consulted is *Winkler* 1874. On the basis of very broad transcriptions (in the orthography of those days) of the dialect versions of the parable of The Prodigal Son, which form the main part of the work, the author points out characteristics of the individual dialects and the dialect groups. For the present investigation, data and annotations were studied for the dialects of Cologne, Bonn and Aachen ('Neder-Rijnland', 'Lower Rhineland'). So were all dialects given for Dutch Limburg: Maastricht, Sittard and, in the north and northwest, Roermond, Venlo, Weert and Stramproi. Except where the sources were anonymous, we know all dialects to be represented by one male informant from what could be called the upper-middle class (among them were university professors, civil servants, a student and clergymen). No other biographical data about the informants are given.

- The response to the enormous comparative questionnaire (lexicon, morphology, phonology, collected both via individual lexical items and paradigms) by *Willems* (1886) for Aachen, Herzogenrath, Heerlen and Sittard was studied in detail. These questionnaires were filled in by respectively a vicar (born in Aachen in 1843), a chemist (no biographical data), a secondary school teacher (born in Heerlen in 1848) and a chaplain (born in Sittard in 1851). Despite its length, the list has been filled in nearly completely by all four informants; the handwriting is generally reasonably legible.

- The extensive comparative questionnaire (lexicon, morphology, phonology, collected mainly via items and paradigms) by *Schrijnen, Van Ginneken & Verbeeten* (SGV 1914) was filled in by a teacher for Rimburch. Here too, the list was filled in almost completely and very legibly.

- In 1962 E. Blancquaert, J. Claessens, W. Goffin & A. Stevens published part 8 of the *Reeks Nederlandse Dialektatlassen* (Series of atlases of the Netherlandic dialects, henceforth abbreviated as RND), which covers both the Dutch and the Belgian Limburg dialects. For this dialect-geographical work the data (presented in phonetic transcription of a corpus of sentences) for Heerlen, Schaesberg, Nieuwenhagen, Waubach, Eijgelshoven and Kerkrade were studied. In the late forties they were supplied orally by one (for Heerlen) up to four (for Waubach) male informants. All informants except one were born locally and so was at least one of their parents. Their ages ranged from 21 (one of the four informants for the Waubach dialect) to 66 (Heerlen), with a mean age of 41. All had a non-manual profession; teachers and civil servants were over-represented.

- The written questionnaires (containing words, paradigms and sentences) by the *Centraal Bureau voor Nederlandsche en Friesche dialecten* (Central Bureau for Dutch and Frisian dialects, the so-called 'Dialectenbureau', with its domicile in what has become known as the P.J. Meertensinstituut in Amsterdam. Cf. § 1.2.1 above. The 'Dialectenbureau' was also known as the Dialectencommissie of the Royal Dutch Academy of Sciences, commonly abbreviated as DC). For Rimburch only the numbers 2 (1932) to 9 (1940) were filled in; the respondent was born in Rimburch in 1912 and

was a blacksmith by trade before he became a military policeman. In the course of time, information for Waubach has been provided by six adult informants, two women and four men (one housewife, three civil servants and two teachers). All questionnaires were replied to, except for three. The lists are numbered from 1 to 59 (1984) and the handwriting does not constitute any problems.

- Schrijnen (1920) and J. Goossens (1965; 1970) give exact descriptions of the geographical spread of several dialect features. *Schrijnen's* work consists of maps and descriptions of more than ten dialect features in the phonological and morphological components for Dutch Limburg and the east of Brabant on the basis of the 1914 questionnaire mentioned above. *Goossens* gives a synthesis of dialect-geographical classifications on the basis of the areal diffusion of a whole range of features. The data mainly stem from older studies.

In addition several monographs were consulted; for our investigation the most important were:

- *Jongeneel* 1884. This 48 page-long minute description of important parts of the phonology and morphology of the dialect of Heerlen was very useful. The work also comprises a dictionary of 75 pages. *Jongeneel* based his descriptions partly upon older documents (mentioned on p. XXV).

- *Münch* 1904 is a grammar (including phonology) of the Riparian dialect group. Its nearly 200 pages describe what is clearly the main, i.e. German body of this cluster, and goes into much historical and dialect-geographical detail. *Münch's* sources were his own dialect and especially relevant 'Jugenderinnerungen' (childhood memories), several dialect monographs and "gentlemen who kept in contact with the dialect", among whom were also the "gentlemen of the habitue's table of the pub 'Zum grünen Kranz'" (VI - my translation, FH) in Bonn.

- *Schelberg* 1979 (XLVII-LXIX) among other things sketches some 'peculiarities of the Sittard dialect'. Most of these features are not unique for this dialect, but this was precisely why *Schelberg's* list was a great help in the selection of LVs for the present investigation. The descriptions in the Sittard dialect of games children used to play (513-596), which follow the dictionary part of the work, constitute an interesting corpus and were studied as such.

Specific studies of the local Rimbürg dialect could not be traced; as far as we know they do not exist.

To enlarge the basis of selection and bring our sources up to date, 'viva voce' material for the three dialects was studied.

For the Waubach/Groenstraat dialect varieties, material recorded in the summer of 1982 (for a previous investigation - *Hinskens* 1983) was available. In total, almost 11 hours of spontaneous dialect use by 21 speakers in a variety of situations was recorded. Of these people 13 could be considered as speakers of the Waubach/Groenstraat dialect varieties.

In addition, for the specific purpose of the selection of LVs (hence preceding the recordings made for the main part of the present study) recordings were made of in-group conversations in the Rimbürg and in the Sittard dialect. In order to obtain relatively 'pure' dialect use, in december 1985 recordings were made of verbal interaction between Nonmobile Older Rural Males ('NORMS' - Chambers & Trudgill 1980: 33). In both sessions, more than two hours of dialect use was recorded of three older (> 60 years of age) gentlemen, who considered one another as friends. Consequently, the conversations bear a highly informal character. Both recordings were studied, and large parts were transcribed and analysed.

4.2.3 Formalization. Variation, lexicalization and code-switching

Before we proceed with the presentation of the LVs selected, one final problem should be briefly discussed. The reason why it is discussed here partly stems from the fact that we decided to present the LVs (and especially the phonological and morpho-phonological ones) in a somewhat formalized fashion.

Formalization has obvious advantages.⁵ One is brevity. An adequate formalization combines explicitness with precision, and maximal generality with clarity. Another advantage is the fact that in some cases an adequate formalization clears the way for an explanation of the phenomenon, in our case of the existence of variation at a specific point in the grammar (cf. Ch. 2 above). A necessary condition is, however, that the observation must be sufficiently detailed to demarcate the environmental conditions, the structural borderlines of the range of occurrence of the dialect feature. A third advantage of formalization, which we consider of at least equal importance, is that it may help to make predictions with respect to possible future changes - provided there is a general, non-ad hoc basis for prediction in linguistic theory.⁶

There is a connection between formalization and the way one regards LVs. The problem which arises in this connection can be summarized in the notions of rules, underlying forms, lexicalization and intra- vs. inter-systemic variation. With regard to the latter, a distinction can in principle be made between two types of linguistic variables: elements or structures may vary within or between linguistic systems.⁷

⁵ A discussion of some disadvantages and dangers of formalization with very explicitly stated anti-generative implications is Matthews 1982.

⁶ In essence explanation and prediction differ only in the time perspective, as has been pointed out by Popper (summarized in Van den Toorn 1978: 94-95).

⁷ See § 1.3.1 above. Cf. Scheutz' (1985a: 89-93, 98-100) operationalization 'Dialektwechsel' or 'Alternation', going back to a historical differentiation, vs. 'Prozessregel', reflecting a synchronic state or development, taking the form of a 'true' phonological rule. Cf. Dressler's distinction between lexical variables vs. connected speech processes, as applied by Kerswill (Milroy 1987: 130-31). Connected speech processes form part of the set of postlexical rules - as distinct from 'prelexical' or 'input switching rules' in Dressler's model (Grassi 1987: 687).

In the scenario of early generative phonology⁸, 'causes' of differences between dialects may be put down to either (a) the presence or (b) the absence of a rule in one of the dialects, or (c) a difference in a rule common to both systems, or (d) a difference in the ordering of rules common to both dialects. In all four types, rule machinery is the locus of inter-systemic variation. Whenever rules are *not categorical*, however, they cause intra-systemic variation. When they are *categorical* rules, they may be synchronic reflections of a historical process of change; the 'present-day' underlying form⁹ may have been the surface form of the phase before the change (cf. Schane 1973: 83). When a rule becomes *lexicalized*, so that the continuum

(1) historical surface form --- 'present-day' underlying form

becomes disrupted, it is the (underlying) lexical representation, and not some rule present in one dialect but absent in another, that is the locus of variation (Chambers & Trudgill 1980: 50). As a type of reanalysis or restructuring (cf. Janda 1982: 161), lexicalization is essentially a freezing-process. It can be compared to Dressler's (1972: 228-29) scenario of the type of sound change which occurs when a phenomenon that constitutes a major rule in 'allegro style' penetrates into 'lento style' via isolated, highly frequent words, and becomes a minor rule in 'lento style'.

Once lexically frozen, the one-time rule may become subject to lexical diffusion, which in turn may lead to the disappearance of regular bidirectional correspondences between forms across dialects.¹⁰ From the point of view of rule typology, it may result in minor rules; "the composition of phonolexical subsets is not predictable by a general rule" any more (Milroy 1987: 133). As a discovery procedure Milroy suggests to "record as both a lexical item and a phonetic value each putative token of a variable" and, after quantitative analysis of the use of some thousand tokens, to look for "anomalous patterning of particular lexical items" (133-34). This method may help to determine if there are such subsets and, if so, which items are part of them. It does *not*, however, constitute a principled solution to the problem addressed here.

Lexicalization and lexical diffusion may result in (what later seem to be) completely unpredictable phonological differences between forms of the same morpheme within a single linguistic system. Sometimes such differences are almost bizarre, especially in the case of suppletion. Phonologists of the natural generative school (e.g. Hooper 1976: 17) have introduced the idea that such forms are linked to one another in the lexicon by way of a special type of rule, the so-called *via-rules*. Such rules are by definition non-productive.

⁸ Cf. Chambers & Trudgill 1980: 45-47. See also §§ 2.3.1 and 3.3.2 above.

⁹ Interestingly, Bloomfield 1933: 219 used this notion already in its 'modern' meaning.

¹⁰ Cf. Agard's (1971: 7) "Third postulate". See also Bynon 1983: 18-19; J. Harris 1989: 51.

In both dialectological and sociolinguistic research, the differences between dialects are usually presented in the form of phonological or morphological correspondence rules. As we just pointed out, the differences may very well be differences in lexical representation or, more generally, in underlying form.¹¹ In that case, *alternation between the relevant variants* should be considered as code-switching, as beginning relexification or as lexical substitution. In the light of recent theoretical developments in generative grammar, Muysken (1990: 6-7) makes a serious attempt to downplay the difference between code-switching and variation, and proposes to collapse these notions, as they can both be dealt with "in terms of variation in lexical insertion". On an abstract level of analysis this may be perfectly defensible, but the methodological problem we are facing seems to require a more practical answer. We propose two different solutions; as yet, the first one is of a tentative nature.

The first approach would look upon this part of the problem as an empirical question. In addition to the occurrence of other dialect features in a stretch of speech, for instance, non-linguistic indications like the absence of 'channel cues' (Labov 1972a: 94-103) may lead one to assume that a speaker is not switching back and forth between the dialect and some other variety. Supplementary evidence may be the general proportion of use of a dialect feature (i.e. the ratio use of the dialect feature / occurrence of the LV) on the level of the community of speakers of the dialect at stake. A high general proportion of use of the dialect feature may indicate in fact that it does not vary intra-systemically (at least not to an interesting extent), but only inter-systemically. This may in turn imply that the feature has been lexicalized, in which case it will probably display lexical diffusion. The 'non-code-switching', the 'high general proportion of use' and the lexical diffusion requirement all seem to be necessary but not sufficient conditions for a feature to be called lexicalized (or incorporated in the grammar) and therefore being merely inter-systemically variable.

These considerations lead us, subsequently, to the methodological necessity that for each separate dialect feature it should be established first of all whether it is a case of intra- or merely of inter-systemic variation. (As far as the Ubach over Worms dialects are concerned, a few instances of inter-dialectal variation probably exist, e.g. the monophthongal vowel equivalent of the standard language diphthong /ei/ which is represented orthographically as 'ij'. Purely intra-dialectal variation, however, does not occur.)

The above considerations might, moreover, lead us to the conviction that in the formalizations of the correspondences between dialects or dialect types no '→' arrows should be used, except in those cases where

I. the inter-systemic variation

1. occurs in a specific type of structure which is underlyingly identical in the systems that are compared, *and*

¹¹ See Berendsen et al. 1985: 181 ff. for an accessible account of the difference between the two.

2. is brought about by a 'true' phonological rule which exists in one of the dialects concerned, *and*

II. no intra-systemic variation exists in the system concerned.

Where these conditions are *not* met simultaneously, e.g. in case underlying forms differ, the symbol " ~ " might be used to express the fact that the 'rule' describes the relationship between the forms (Booij 1981: 140). In case the segment inventories of the systems that are being compared do not show one-to-one correspondences, one might use diasystem-like notations of the type

- (2) dialect 1 /p ~ q/

dialect 2 /p/

If the distribution of /p/ and /q/ in dialect 1 is unpredictable from the point of view of dialect 2, in other words if /p/ and /q/ in dialect 1 both have their own lexical set, the relationship between dialect 1 and dialect 2 may have to be described by way of an adaptive rule (Andersen 1973: 773, 776 ff.). In such a case, acquisition consists of "learning a categorical contrast on a word-by-word basis rather than a general rule of allophony" (J. Harris 1989: 45). Throughout the Dutch dialect landscape, the standard language diphthong /œy/, orthographically 'ui', which resulted from a two-step change $u > y > \text{œy}$, has two equivalents, which are lexically diffuse (cf. Kloeke 1927). Finally, for situations where condition II is not fulfilled, the variable rule concept has been developed.

As will be seen, our approach does not meet the above requirements: too much research would have been necessary to find out how the several dialect features that were selected can be characterized with respect to the conditions under I and II. Moreover, such efforts seemed superfluous in the light of a pragmatic consideration: of central importance to the whole issue is the perspective from which the dialect features are seen. In dialectology it is not uncommon to appeal to a historical phase in which the dialects are assumed to have been identical, either generally or with regard to a specific part of grammar (Singer 1983: 694-95; Scheutz 1985a: 73-74). What we need, however, is a strictly synchronic approach.

The second type of 'solution' to the problem sketched in the first part of this subsection is the following. In our description of the dialect features selected (to be sketched in the next subsection and presented in Ch. 5), we consistently take as a starting point the dialects to the west that do *not* have the features concerned. In this connection, we profit from the fact that, as has been pointed out in § 3.3.2, in the Limburg dialect landscape rule addition is predominant, with Cologne as the main historical 'source'. Since we describe the dialect types -and especially the features distinguishing them- from the outside, namely from the standpoint of the western

dialect types that do not have the features concerned, formalizations of the format " $x \rightarrow y$ " or " $x : y$ " should then be read: originally in this dialect type (or in these dialect types) " y " corresponds to " x " in the western dialect types. So the type of dialect features we named A-features (in § 4.2.1 above) are described from the point of view of the B- and C-type dialects and the standard language, the B-features from the perspective of the C-type dialects and the standard language, and the C-features, finally, are described from the point of view of the standard language. Since all features are thus described from the outside, they are presented as inter-systemic variation. This should, however, not be taken to imply that no intra-systemic variation may occur in their use.

In short, the formalizations of the dialect features that were selected should merely be seen as correspondence rules which are based upon dialect-geographical comparison. Moreover, they should be interpreted synchronically; they are not meant to have diachronic value (as e.g. sound laws).

However unsatisfactory the above discussion may be, at least it led to

- the idea that there seems to be a certain parallelism (but not necessarily an absolute correspondence) between intra- vs. inter-systemic variation on the one hand and internal variation vs. lexicalization on the other;
- a proposal to operationalize the notion lexicalization in an essentially quantitative way;
- a further elaboration of the essentially dialect-geographical perspective from which we consider the dialect features that were selected as dependent variables for this investigation.

4.2.4 The linguistic variables: a brief overview

On the basis of the four criteria discussed in § 4.2.1, twenty LVs were eventually selected for investigation. These form a proper subset of the relevant LVs that were identified on the basis of questionnaires, descriptions and recent recordings (§ 4.2.2) and the investigator's knowledge of the Ubach over Worms dialects. The subset of LVs selected clearly constitutes a judgement sample ("autoritative Stichprobe" - Altmann & Naumann 1983: 655).

In Table 4.2 we present a brief overview of the LVs selected. The 20 LVs are ordered according to their relative geographical spread as well as to the grammatical (sub)component they belong to. Geographical spread is indicated by one of the capital letters A, B and C, a convention we introduced in Ch. 3 (§ 3.3.2, see also § 4.1). A-type LVs are restricted to the dialects of the Ripuarian group; B-type LVs occur in the dialects of the Ripuarian group as well as in those spoken in the transition zone; finally, C-type LVs figure in the dialects of the Ripuarian group, the transition zone and also in those of the East-Limburg group. Notwithstanding this tripartition, there is still some variation in areal spread between the LVs within each of the three types.

However, the geographical borders between the three types A, B and C are clearly marked.

The grammatical (sub)components that the individual LVs form part of have been impressionistically indicated.

In Ch. 5 we will present an extensive description in which ample examples are given and attention is paid to diachronic, dialectological and methodological issues as well as to the exact linguistic nature of each LV (the range of variation, i.e. the variants and their relationships, relevant aspects of the linguistic environment etc.). The formalized accounts of a number of LVs will also be presented in Ch. 5.

	A	B	C
phonology	'Ach-laut' allophony ɣ ^l -weakening I-lowering dorsal fricative deletion	R-deletion n-deletion	t-deletion sandhi voicing
morpho- phonology	[s] in diminutive suffix	derivational suffix -ʿlɣ ^l	absence inflect. /ə/ derivat. suffix '-də'
morphology		V preter. suffix weak verbs V prefixless past participle V subjunctive V strong/irregular ~ weak conjugation	noun pluraliz. V str. / irreg. ~ weak conj. V stem vowel 2/3 sing. pres.indic.
morpho- syntax			expletive elem. oblique forms certain prons.

Table 4.2 The 21 dialect features selected for analysis

4.3 The speakers

In the range of phenomena related to 'language', there are several dimensions that can never be exhaustively investigated. Specifically with respect to dialectology, König (1983) distinguishes four dimensions of representativeness: grammar, geographical

space, speakers and situations. To these we add the time dimension, which is evidently of central importance in connection with phenomena like change and levelling.

A typology of dimensions that are represented in the data for this investigation is:

- time
- geographical space
- linguistic-internal space
- dialect use ('parole') by native speakers in a range of situations.

As we pointed out, geographical space is represented by the areal spread of the dialect features, designated as A (Riparian dialects), B (Riparian dialects and dialects in the transition zone) and C (Riparian, transition zone and East-Limburg dialects). A is in turn represented by the dialect spoken in Rimbürg, B by those spoken in the two other, older parts of Ubach over Worms (Waubach and Groenstraat) and C by the dialect spoken in Sittard. Implicit is a fourth level, namely the standard language. The standard language is negatively defined here in that it does not display any of the dialect features or LVs mentioned in the preceding subsection. As will be shown below (§ 4.4.2), in a part of the material that was studied geographical space was also represented by the various linguistic backgrounds of the interlocutors.

Internal-linguistic space is represented by the twenty¹² LVs the use of which was analysed. These LVs cover the phonological (n=8), morpho-phonological (4), morphological (6) and morpho-syntactic components (2). The use of every separate LV was related to linguistic dimensions. For example: one of the linguistic dimensions which seemed relevant to the use of the γ^1 -weakening rule is the following segment. For this dimension three values were distinguished: full vowel, shwa and liquid. Most of the linguistic dimensions we studied were context variables.

Although it may seem trivial to distinguish a dimension 'use', the history of linguistics proves that this is by no means the case. Working with speakers of flesh and blood (Labov's 'secular linguistics') is not trivial either, although several branches of linguistics are either not able or not willing to do so. The investigation reported on here is based on the dialect use of a sample of speakers. Recordings were made of the dialect use of each speaker. The speech material was collected through structured elicitation and conversations in a range of situations. The latter were organized in such a way that the linguistic background of the interlocutors (§ 4.4.2) was systematically varied. This type of dialect use can be considered as relatively spontaneous.

The time dimension was represented in this investigation by the age group of the speakers. In the somewhat artificial approach to the parameter time which is known as the 'apparent time' method, the speech of people of different age groups is compared and, under certain assumptions, systematic, significant differences are interpreted as manifestations of change in 'real time'.

¹² Covering 21 dialect features, since one LV falls into a B-type and a C-type feature.

In the following subsections attention will be focused upon the dimensions use and time, and the way in which they were represented in our sample of speakers.

4.3.1 Stratification and control variables: considerations

The selection of speakers representing the Rimbürg dialect and the ways it is used (and levelled) had to fulfil two main requirements. On the one hand, the sample had to consist of several different age groups, on the other it had to be homogeneous in all other respects that were expected to be relevant.

The only stratifying variable was therefore *age group*, representing the time dimension. As has already been pointed out (§ 4.1), investigating 'real time' in 'apparent time' is partly based upon unproven assumptions. The one that has here been named 'linguistic stabilization' is based on the idea that after adolescence patterns of language use by individual speakers no longer undergo fundamental changes. Another commonly implicit, but unproven assumption is that the differences in patterns of language use between members of several age groups are not significantly contaminated by the type of stylistic bias that is usually referred to as 'age-grading' nor by age-bound performance phenomena (Löffler 1974: 47; De Bot 1985). Although certain risks seem to be more or less inherent to the apparent time method, at the same time it has the decisive practical advantage that it is one of the few techniques to investigate real time processes in a project which consumes relatively little time.

For the present investigation, three age groups were selected, namely 20 to 30, 40 to 50 and 60 to 75 years old (in the year 1986), informally labelled 'Younger', 'Middle' and 'Older'. In this way

- we conformed to the standard practice of leaving out the pre-adult (including the adolescent) part of the population;
- the intervals between the three age groups were the same (10 years);
- the intervals within the age groups were the same for the younger and middle group (10 years). In the case of the older group the interval is bigger to take into account the fact that the mortality rate is relatively high in this group (cf. also Poplack 1989: 418). The older group had to be properly represented, since the older speakers' dialect use forms the point of reference. Dialect levelling, it will be recollected, is operationalized as a significant decrease in dialect use in apparent time. Each age group was represented by 9 speakers.

In every investigation of language use, variation may be a consequence of having a non-homogeneous corpus (Thelander 1982: 65). Non-homogeneity of the corpus may in turn be caused by non-homogeneity of the sample of language users. The sample of language users in this study was homogenized with respect to three sociological variables: sex, autochthony, and socio-economic background.

In the majority of the sociolinguistic investigations in which sex was studied as an independent variable, it turned out to be a factor that separates the speech community. In almost all cases, the separation consists of the fact that women in general are relatively strongly inclined to use the variants that are (more) bound to the prestige variety, and to avoid the use of variants that are geographically and/or socio-stylistically marked. The same general conclusion is reached by Allen (1986), one of the incidental dialectological studies in which the sex of the informants constituted an independent variable. The sex of the speakers was nevertheless held constant in this research by limiting it to males.¹³ This should not be taken to imply that it is our conviction that sex does not play a role in processes of dialect levelling. The decision was merely made for the practical reason that the means and time available for the investigation were limited, so that certain choices had to be made. Since the sociolinguistic and the linguistic model strongly orient the investigation towards the parameters time, dialect-geographical and internal-linguistic space as well as towards type of interactional situation, other variables had to be eliminated.

It is a strict requirement in dialectological research and a rather common one in the sociolinguistic practice to define the population of speakers of a certain dialect among other things by restricting it to people who have a more than incidental relationship to the place or region of interest. As Van Hout & Scheepers (1982) have pointed out, it is rather paradoxical that outsiders are thereby excluded, despite the fact that they can play a very important role in processes of socio-cultural (including linguistic) change. The number of different criteria that are usually invoked to homogenize the sample of speakers with respect to *autochthony* is small. In our investigation the most common ones were applied; autochthony was controlled by only recruiting speakers

- at least one of whose parents was born and bred in Rimbürg, and
- who were themselves bred in Rimbürg, and
- who live in Rimbürg.

The second requirement was implemented such that the overwhelming majority of the speakers were bred in Rimbürg from their earliest childhood on. People who settled in Rimbürg after their sixth year of life were excluded.

The last of the three sociological variables that were controlled is *socio-economic background*. Socio-economic stratification (henceforth SE stratification) is a highly complicated phenomenon; with Milroy, we look upon SE background as a "proxy variable covering distinctions in life-style, attitude and belief, as well as differential access to wealth, power and prestige" (1987: 101). From the multitude of indicators for a person's place in a social stratification we have chosen 'education' and 'occupation'. They are rather simple operationalizations and as such they are, moreover, nearly unchallenged; they are present in virtually all SE scales that have been proposed. This

¹³ The variable sex was also controlled with respect to the interviewer and the interlocutors, who were all males too.

is undoubtedly related to the fact that they are central in a person's life. There were also practical reasons for this restriction; after all, even an experienced sociolinguist like Ammon failed to obtain sufficient data with respect to other indicators (Hasselberg 1983: 1471).

Several approaches to the variable *education* are conceivable. One is based on the generally high positive correlation between total duration and ultimate level of education, and thus takes the number of years of education as an indicator (Jaspaert 1986 after Bourdieu). In the present investigation a six-point scale was used, ranging from primary education only ('1') to a completed 'post-secondary technical or vocational training' (Dutch: 'HBO') or university degree ('6'). A six-point scale was also used for *occupational level*. This scale¹⁴ was developed at the Institute for Applied Sociology of the University of Nijmegen and has become the standard occupation rating scale in Dutch sociolinguistics:

1. unskilled labour
2. skilled labour
3. lower level employees
4. self-employed (in small business)
5. middle level employees
6. high level employees or professionals.

There is a certain overlap of blue-collar or 'manual' (1 to 3 or even 4) and white-collar or 'non-manual' (3 to 6) jobs in this scale. In applying this occupation rating scale, retired people were of course classified on the basis of the last job they held.

The desired homogenization of our sample of speakers in connection with SE background was obtained by including as much as possible only people whose score on the *mean* of the two scales is minimally 2 and maximally 4. This procedure resulted in a reasonable homogeneity of the sample as regards our operationalization of SE background. Complete homogeneity seems unattainable, especially for sampling from a small population like the one of Rimborg (N = around 950) given the requirements with respects to the other three variables, which hold simultaneously. In our procedure both the lowest and the highest levels were virtually excluded, and only half of the total range of the SE scale is represented. Undoubtedly, our sample includes the *modi* for the distributions of both educational and occupational level in the population.

The population relevant to our research consists of all native speakers of the Rimborg dialect. This population, which (like every aggregate of people) is internally differentiated in a number of respects, is represented in our sample of speakers. In the choice of the 27 speakers forming the sample which had to represent use of the original dialect in the Rimborg community, account was taken of four extralinguistic variables that were expected to be relevant in the ways described above.

¹⁴ Described in Westerlaak et al. 1975a,b; cf. Swanborn 1978: 47-49; cf. Schatz 1986: 39-42, which was also our source for the English translation of the labels for the six levels.

4.3.2 Another control variable. Sampling practice

It goes without saying that the sample was controlled for the variable linguistic background in that only native speakers of the Rimbürg dialect were included. During the recruitment of persons meeting the requirements sketched above, there were two control moments:

- in the letters that were sent to those persons in the first instance, 'the Rimbürg dialect' was explicitly mentioned as the object of the investigation;
- during all oral communications, including the first, which served organizational purposes, the investigator himself spoke dialect. This in combination with the codes regarding linguistic code-choice in the research area, and most probably also because of the object of the investigation, caused the persons approached to speak dialect too. The Ubach over Worms dialects, especially the Rimbürg one, can be easily recognized as such by the investigator, so that it was possible to check whether the selected persons were speakers of the Rimbürg dialect.

Moreover, at the end of the first recording, the structured elicitation, the speakers in our sample answered (among others) the following questions:

- "Did you use to speak dialect to one or both of your parents?"
- "Do you always / mostly / sometimes / seldom / never speak dialect?"

For one speaker the answers are missing because of an unfortunate combination of technical trouble and his unexpected, sudden death some weeks after the last recordings. For the remaining 26 persons the response to the first question is distributed as follows:

speak or spoke dialect to both parents:	20
speak or spoke dialect to one of both parents:	5
usually does not speak dialect to parents:	1

As was to be expected, the answers to the second question were in many cases differentiated for domains, types of interactional situation and linguistic background of interlocutor. According to their own estimation of general frequency of dialect use, the distribution of the speakers is:

always speak dialect:	13
mostly speak dialect:	11
sometimes speak dialect:	2

The answers to both questions have not further been used in this investigation; especially the second one was way too unspecific to elicit data which might have served any other serious scientific goal.

Having discussed this particular aspect of our speaker sample, we now go back in time to briefly consider organizational and technical matters. After

1. sampling from the population and birth registers of the municipality of Landgraaf,
 2. approaching the people who seemed to meet all criteria (n=43), and
 3. carefully gathering necessary additional information regarding education and occupation from those who were willing to cooperate (n=40),
- all in all 37 suitable and willing dialect speakers remained; they were distributed over the three age groups as follows:

age group	n persons
20-30	13
40-50	11
60-75	13

From this contingent, finally, per age group a random sample of nine speakers was taken. Most of the people who were excluded from the sample participated in the try-out of the battery of tests designed for the structured elicitation of dialect use, the first type of material which had to be collected (see also § 4.4.1 below). From the three groups of nine dialect speakers, who form a stratified random sample, all three types of materials were collected on which the present study is based. Within

- the three strata (age groups),
 - the margins of control set for sex, autochthony and SE background, and
 - the margins set by the availability of suitable persons,
- this sample of Rimbürg dialect speakers is chosen at random, and can be claimed to be representative.

To conclude this subsection, we will discuss two methodological issues regarding our sample. First, we briefly evaluate our sample of speakers with respect to the most important aspects regarding the credibility of samples (Van Hout 1989: 46-49, after Sudman), namely generalizability, size and quality. The generalizability of our sample may seem to be restricted by the fact that we excluded non-autochthonous Rimbürgers. It should be noted, however, that there is generally a high positive correlation between autochthony and being a native speaker of a local dialect; since the Rimbürg dialect is the object of this investigation, our restriction to autochthonous speakers is legitimate and functional, and it does not affect generalizability. The generalizability of a sample is also determined by the question whether or not it is drawn at random; as has been pointed out, within the limits set by the stratifying and the control variables, our sample has indeed been taken at random. As for size: in absolute numbers our sample is not big. Relative to the size of the relevant parts of the population, however, our sample is far from small. Moreover, for each of the 27 speakers, both linguistically and situationally a broad range of data was collected (see § 4.4 below). Finally, the quality of our sample cannot be said to be seriously affected by 'non-response'; ultimately, only three out of the 43 persons who seemed to be (and

of the 40 who actually were) suitable informants were not ready to cooperate, two of whom because of circumstances beyond their control.

The second and final remark concerns the fact that our sample ($n=27$) is almost as big as the relevant part of the population ($n_p=37$, or at most $n_p=40$, so $n / n_p = .73$ or $.675$ respectively). This has certain consequences for the statistical analyses that will be carried out, which we did not systematically take into account in our investigation. Generally, the significance of the effect of a certain independent variable, like the age group of the speakers, is determined on the basis of the variance in the scores for the dependent variable, in this case the proportion of use of a certain dialect feature. Standard statistical techniques (like the analysis of variance in SPSSx) assume random sampling from a large population. In case a sample is drawn from a finite population¹⁵, like in the present study, working with such standard techniques may result in what is called a Type II- or β -error, i.e. testing too conservatively. In practice this means that we may run the risk of deciding that there is no clear age group effect on the use of a specific dialect feature when in reality such an effect does exist. From a mathematical-statistical point of view, this problem is rather complicated. This, however, will not be our concern here. What we would like to stress is that in this particular connection the danger of making a Type I- or α -error (in this case deciding that there is an age group effect on the use of a given dialect feature when in reality such an effect does not exist) is virtually nil.

4.3.3 An additional speaker-background variable. Some sociological characteristics of the sample

In connection with the control variables autochthony and SE background, further homogenization of the sample of speakers was impossible. The bottom margin (as for autochthony) and the bottom and top margins of the relevant scales (SE background), respectively, were filtered out, but in between the margins a range of variation exists for both factors in the sample. For the sake of a correct interpretation of the findings from our study, some insight into these and related sources of possible intra-sample variation seems required.¹⁶

In order to get a firmer grip on the matter, more relevant data appeared to be needed than could be gathered from the population and birth registers. Therefore, at the end of the first recording session (the structured elicitation, recorded with each informant individually) the speakers were asked ten questions relating to their linguistic background and general frequency of dialect use (see § 4.3.2), autochthony, geographical mobility, educational background and occupation(s). As some of these

¹⁵ See Ferguson 1981: 7 on the distinction which is drawn in statistics between finite and infinite populations.

¹⁶ Cf. Münstermann's 1986: 122 advice to collect more data on individual speaker-characteristics in order to be in a position to reach (statistically) more reliable explanations.

matters are generally felt to be rather personal, it did not appear wise to ask for this information directly at an earlier stage, i.e. before definitive appointments for the first recording sessions were made and the informants' confidence seemed to be assured. As a consequence, two speakers, both representing the middle age group, finally turned out to score slightly above the 2 - 4 range set for SE background (both scoring 4.5).

The data which were collected through the answers to the ten questions which were asked after the first recording session did not only serve to check and/or specify the information already available. One additional speaker background variable was constructed, namely geographical mobility. In this subsection attention will be restricted to an examination of the internal structure of the sample itself with regard to the aforementioned variables.

First of all, some words need to be said about the way the speaker variables autochthony (control variable), geographical mobility (additional independent variable), education and occupation (both control variables) were operationalized on the basis of the definitive data collected by way of the ten questions.

For autochthony, there were two *sine qua non* conditions: to both of the questions - "where were you raised?", and - "where did you go to school?" (only primary education counted) the answer had to be "in Rimbürg". For the variable part of the factor autochthony, the indicators were:

- "where were your parents born and bred?"

both parents bred in Rimbürg = 2, one of both parents bred in Rimbürg = 1 (people neither of whose parents was bred in Rimbürg were excluded)

- "have you always lived in Rimbürg?" (military service not included) yes = 1, no = 0. The minimum value for the variable part of this factor is thus 1, the maximum is 3.

For geographical mobility the indicators were:

- "where did you go to school?" (only secondary education, if any, counted)

- "where (i.e. in which places) have you worked?"

- "where does your wife (or, in the case of 5 younger speakers: girlfriend) come from?"

- "have you always lived in Rimbürg?" (military service again not included)

For all places that were mentioned in the answers to these questions, the geographical distance (in kilometres) to Rimbürg was determined. The distance to the place of the secondary school was counted twice, because exposure to other dialects in adolescence is considered to be of more importance than in adulthood. The same holds, *mutatis mutandis*, for relevant answers to the last question, i.e. in case a speaker lived elsewhere during his adolescence. On the basis of (1) the distance from Rimbürg to the places mentioned in the answers to the above questions and (2) doubling the number of kilometres from Rimbürg in adolescence - to put it succinctly -, two indexes were constructed by simple addition. In both indexes, the places west of the Benrath line have a special status because this isogloss demarcates the A-type (i.e. the dialect-geographically 'true' Riparian) dialects, to which group the one spoken in Rimbürg

belongs, in contrast to the dialects spoken in Waubach and the Groenstraat, the two other old parts of Ubach over Worms (see Ch. 2 above). For the construction of the first index ('a'), the number of kilometres west of the Benrath line were doubled - even if they had already been doubled because of adolescence. For the second index ('b'), *only* the kilometres west of this isogloss bundle (which were not doubled this time) were added up. Finally, on the basis of the total amount of relevant kilometres for each individual speaker, per index the rank-order of all speakers was determined. The value 1 was assigned to the least mobile of all speakers, all other speakers having higher values; some ties occurred in both rankings.

The idea behind working with indexes for geographical mobility (comparable to the dialectological practice of gathering one's material via *NORMs*, non-mobile, older, rural males - Chambers & Trudgill 1980: 33-35) has already been mentioned: it has frequently been observed that exposure to other dialects in the long run has an effect upon a person's dialect use. All types of geographical mobility (moving or commuting because of work, study, war etc.) can reduce the homogeneity of dialects (cf. König 1983: 472). This, in turn, is why in sociolinguistics cities, as places where people from different places are in frequent contact, are considered as 'hotbeds' of cultural exchange and innovation, and the study of urban dialects has generally been given priority. Our indexes for geographical mobility are comparable to Ammon's (1973) 'geographical radius of communication' (my paraphrase - FH), and they can be considered as the objective counterpart of Mattheier's (1980a, 1983) 'Ortsloyalität', loyalty to the village; cf. also 'Regionale Mobilität' (Kall-Holland 1981: 221 ff.).

Additional data on the informants' education and occupation were gathered by asking the questions:

- "which type of school(s) have you attended?"
- "which job(s) do you have c.q. have you had?"

The two six-point scales on which speakers have been placed on the basis of their answer to both questions have been presented in § 4.3.1 above. Both variables, the scores of which were stored for each individual speaker, are ordinal variables. The SE background of each speaker was determined by adding the scores on both scales and dividing the sum by two.

The speaker variable which is of central importance in our investigation is age group. In the study of the internal structure of our sample of speakers, it should therefore also play a role. For the analyses we aimed at in this connection, however, merely relying upon the three levels of age group that were distinguished seemed to be an unnecessary impoverishment of available data. Thus in the bivariate analyses of the relationships between the several speaker variables in the sample which will be presented here, the ratio variable 'years of age' was used instead of age group. Consider Table 4.3 below.

All results are based upon the data for 26 speakers; as was already pointed out in the preceding subsection, the necessary data are lacking for one speaker.

	age	aut.	geogr.m. <i>a</i>	<i>b</i>	educ.	occup.
autochtony	.2459 (.113)					
geographical mobility <i>a</i>	<u>-.3723</u> (.031)	<u>-.3639</u> (.034)				
geographical mobility <i>b</i>	<u>-.4421</u> (.012)	-.2857 (.079)	<u>.9536</u> (.000)			
education	<u>-.4176</u> (.017)	-.2706 (.091)	<u>.3394</u> (.045)	.2926 (.073)		
occupation	<u>.3556</u> (.037)	<u>-.3796</u> (.028)	.2055 (.157)	.1676 (.207)	<u>.3659</u> (.033)	
SE background	-.1109 (.295)	<u>-.3812</u> (.027)	<u>.3673</u> (.032)	.3200 (.056)	<u>.8452</u> (.000)	<u>.7850</u> (.000)

Table 4.3 Correlations between the speaker background variables in the sample

non-parametric analysis = Spearman's rho;

between brackets one-tailed probability values are given;

underscored *r*'s are significant for $p < .05$

Let us first of all consider the variable age. Age holds significant, but relatively weak correlations with geographical mobility, education and occupation. We feel somewhat relieved to establish that no significant correlations hold between age on the one hand and autochthony or SE background on the other. This can be seen as an indication (though not as proof) that the sample is sufficiently homogeneous for the latter two variables.

As for the significant correlations: the negative correlation between age and education is brought about by the general rise in the mean level of educational background of the speakers in our sample:

Older 2.37

Middle 2.89

Younger 3.44

This tendency is certainly not specific for Rimbarg. After World War II the general level of education in the Netherlands has increased remarkably (cf. Van Hout 1989: 268 for the city of Nijmegen). The positive correlation between age and occupation, which is weaker, can be explained by the simple fact that, also job-wise, a social rise takes time. The negative correlation between age and geographical mobility, finally,

means that the younger the speaker is, the more mobile he will generally be. This finding is interesting in connection with the specific object of our study: if dialect levelling occurs, it might at least in part be brought about by the general increase in geographical mobility. The availability of these indexes enabled us to check this hypothesis in all specific cases; we will return to this issue in Ch. 9.

In the column for autochthony we find significant correlations with geographical mobility *a*, occupation and SE background. The negative correlation between autochthony and geographical mobility is most probably due to the fact that both variables are partly based on the answers to the question "have you always lived in Rimbürg?", though in opposite ways. An inverse relationship between both variables is therefore to be expected. As can be seen throughout the above table, geographical mobility *a* systematically bears stronger correlations with the other speaker variables than geographical mobility *b*. Rather remarkable is the negative correlation between autochthony and occupational level - although the coefficient is far from high. Anyway, this finding means that the weaker one's binding to Rimbürg is, the higher his occupational level will generally be. This, too, can in part be explained by the fact that the index for autochthony is partly based upon the question "have you always lived in Rimbürg?". Since the range of job possibilities in Rimbürg is not very wide, the chances that one has to commute increase according to one's occupational level. The negative correlation between autochthony and SE background, finally, must be explained by the fact that SE background is based for one half upon occupational level.

In the column for geographical mobility *a* significant correlations can be found with geographical mobility *b*, educational level and SE background. The very strong positive correlation between our two indexes for geographical mobility is to be expected in view of the many similarities in content and construction between the two variables. The (modest) positive correlation between geographical mobility *a* and educational level can to a great extent be understood in the light of the fact that there are no schools for secondary or higher education in Rimbürg. It is, however, more than remarkable that no significant (positive) correlation exists between geographical mobility (neither *a* nor *b*) and occupational level. Of course, the lack of such intertwining ultimately frees the design of our investigation of too much complexity. On the other hand, we should keep in mind that we may be dealing with a 'restriction of range' effect; after all, only a certain part of the total range of occupational levels is represented in our speaker sample. The weak positive correlation between geographical mobility and SE background can again be explained for a good part by the fact that our index for SE background is to a high degree based upon the scale for educational level.

The significant, though relatively weak, positive correlation between educational and occupational level is again a very general phenomenon and needs no further explanation. The possibility that the weakness of the relationship is a 'restriction of range' effect exists *a fortiori* in the case of the variables educational and occupational level. The high positive correlation between both education and occupation on the

one hand and SE background on the other is, again, due to the way in which the latter index was constructed from the former two.

The general impression of the internal structure of our sample regarding the eight speaker background variables is that it seems indeed reasonably homogeneous for autochthony and SE background. In addition, we can conclude that the interrelationships between the speaker background variables in the sample are either due to

- the fact that some indexes were constructed partly on the basis of the same data (so that the correlations concerned are artefacts), or to

- general tendencies, i.e. circumstances or developments which are not specific to Rimbürg, or to

- characteristics of the small village of Rimbürg itself. The positive correlation between geographical mobility and educational level can certainly in part be put down to the absence of secondary (or higher-level) schools in Rimbürg, and an essential element in the explanation for the negative correlation between autochthony and occupational level is the fact that the general range (on the scale for occupational level) of the jobs available in Rimbürg is relatively limited. In view of these two facts, it is no surprise that geographical mobility is increasing, witness the significant negative correlations between age and geographical mobility.

The fact that certain relations of speaker background variables require the third type of explanation most probably means that our sample reflects essential aspects of present-day life in general in Rimbürg.

4.4 The collection of the speech material

The corpus of recordings made for our investigation consists of elicited dialect use as well as conversations in a range of interactional situations. This approach was chosen to test hypothesis III (see Ch. 1 and § 4.1) and to avoid a dilemma. *Elicitation* enables one to standardize both the collection and the analysis of the material, thus reducing the time investment (Menge 1983: 545). Applying elicitation techniques can more or less guarantee the desired amount of observations for all LVs of interest for all individual speakers. Moreover, the recording technique can be perfected. It has, however, the disadvantage that it furnishes 'unnatural' material. Assuming that elicitation may provide insight into a speaker's competence (at least more directly than spontaneous speech does), one additional disadvantage becomes obvious: elicitation may cause the instantaneous reactivation of half-forgotten linguistic skills. *Spontaneous* speech, on the other hand, is a more natural reflection of ordinary language use. Its disadvantages are predictable: analysis can be very time-consuming, certain LVs may be lacking or be used too infrequently (largely depending on the feature studied), and technically the quality can be poor.

The recordings for both the elicitation sessions and the conversations took place at the informants' homes. For the informants this was, of course, very practical; in

quite a few cases it increased their willingness to cooperate, and it most probably increased complaisance during the recordings themselves. On the other hand the sound quality did not benefit from this decision, but this consideration appeared to be of far less importance, the more so as the investigation did not have a phonetic aim. Indeed, only few problems were encountered during the analyses which were due to the fact that the recordings were not made in a studio.

For the elicitation, resulting in 'primary data' i.e. speech produced with explicit attention to the isolated forms or sequences (cf. Hagen's 'normatieve monitoring' - 1981: 54 ff.), there was a long, written list of tasks that the speakers had to complete (orally) with extensive help and under the supervision of the investigator. As a matter of course, in collecting the spontaneous material¹⁷, no written prompting was used, since it was obtained through conversations in interactional situations of several kinds. For the sake of the collection of spontaneous speech material, each individual speaker in our sample was subjected to two different interactional situations: in-group- and out-group-contact. In all, for each of the 27 speakers, three recordings were made.

The variety of material that was obtained for this research has the additional advantage Labov called 'the principle of convergence'. This principle says that "the value of new data for confirming and interpreting old data is directly proportional to the differences in the methods used to gather it" (Labov 1972b: 102). Rickford pointed to and demonstrated the methodological importance of 'repeated recordings' (and of systematic elicitation of the speakers' intuitions) for sociolinguistic research. Their surplus value increases when different interlocutors are involved, since "varying the interlocutors and audience in repeated recordings is likely to result in a richer harvest of the informant's linguistic range than varying the topic alone" (1987: 167).

In the next subsections, information will be given on the elicitation sessions (§ 4.4.1) and the group conversations (§ 4.4.2). In § 4.4.3 that part of the design will be presented that is relevant to the question which hypotheses can be tested on the basis of which material.

4.4.1 The structured elicitation

As a try-out, the battery of tests designed to elicit realizations of each of the twenty LVs in specific linguistic contexts were administered to 9 (3 of each age group) speakers of the Rimbürg dialect, who for some reason or another were excluded from the investigation as such (see § 4.3.2 above). This enabled us to correct some inadequacies and to refine tasks. It also allowed us to refine certain organizational aspects of the procedure.

¹⁷ The distinction between 'primary' and spontaneous material is discussed by König 1983: 478, among others. A number of important insights into data collection in dialectology are provided by Mattheier (1983: 625 ff.).

The definitive version, administered with each speaker individually, contained the following *types of tasks*, which were all presented in written form:

1. the translation of sentences from the standard language into the dialect;
 2. the translation of a single word from the standard language into the dialect, and using it in a sentence in the dialect;
 3. idem, but here the standard variant of the word at stake was not presented in the correct conjugational or inflectional form - its dialect equivalent should be given in the 'right' morphological shape;
 4. reading out sentences written in the dialect;
 5. the syntactic transformation of sentences written in the dialect;
 6. giving antonyms;
 7. giving diminutive and plural forms of nouns presented in the dialect;
 8. finally, there was one small perception task, in which the investigator provided short sentences, which the informants had to translate into the standard language.
- Most of the stimuli were written in the dialect, to preclude possible vernacular shifting, i.e. the irregular and unsystematic shifting towards the superordinate standard which may occur in a formal (e.g. test) situation. In extreme cases, translation from the standard language may either cause interference or the use of hyperdialectalisms.¹⁸ One type of task was administered without written stimuli whatsoever, namely
9. counting, which the speakers were asked to do at the beginning of the session, so as to enable the investigator to perform a microphone-test (which was actually carried out, by the way, but usually took very little time). Cardinal numbers contain many LVs as well.

With respect to the subjunctive and expletive *er*, task 1 (sentence translation) was used. In the tasks concerned, however, the 'stimulus' sentences were presented both in Dutch and in German (which is understood by everybody in this village on the German border). This was done in order to reduce any effects from standard Dutch grammar, which differs from that of the dialect. As will be pointed out in Ch. 5, traditionally the dialect has the German-type syntax in these cases. The order (Dutch - German, or German - Dutch) was systemically varied to exclude an additional effect.

In all cases except one, where the task consisted of translating, the largest part of the dialect equivalent of the entire sentence was already given (in written form) in the dialect on the form.

In order to reduce task-specific effects, realizations of each LV were elicited with at least two different types of task. Most tasks elicited several LVs. Within each of these, the order of the LVs involved was randomized. Moreover, many tasks contained distractor elements. In a few of the tasks used for the elicitation of phonological variables (especially in tasks of the types 2, 3 and 5), blanks in the sentence which

¹⁸ Labov 1972a: 213 and 1972b: 111. Cf. also Muysken 1986: 289.

served as a model for the 'response' served to divert attention from the dialect feature aimed at.

Preceding each separate task, the form contained a very brief description of the procedure as well as two examples. Both the description and the examples were elucidated verbally by the investigator - in the dialect of course. By way of illustration we include all items to elicit use or non-use of the 'Ach-laut' allophony rule in the *Appendix*.

Preceding the entire session, extensive instruction was given orally by the investigator - who used a check-list to ensure that no single point was forgotten.

All types of task with which realizations of the 20 LVs were elicited are what applied linguists would call 'indirect discrete-point' tests. "A direct test samples directly from the behavior to be evaluated in the natural setting. An indirect test is more contrived and non-naturalistic. [...] A discrete-point test analyzes proficiency or achievement into its atomic components and then tests each component separately" (Oxford 1982: 121). Its opposite, which is used to assess general proficiency, is labelled 'integrative' test. One of the additional advantages of the indirect discrete-point test-type is the fact that the realizations of the LVs are easily detectable in the material.

As Spolsky sees it, for sociolinguists discrete-point tests "are most likely to be useful in eliciting specific forms and they are most generally used in studies of a specific dialect; because of the formality of their administration and because they focus attention on the feature being tested, they elicit formal normative use." (1987: 934). In the case of an originally rural dialect such as the one spoken in Rimbürg, however, 'normative' seems to have another meaning than is typically the case with respect to the -usually stylistic- variation within a standard language. During the elicitation sessions, many speakers in our sample appeared to be inclined to refer to the way the dialect was spoken "in former days". Therefore it is conceivable that our elicitation techniques in a way appealed to the 'oldest' competence in the dialect that the speakers could mobilize.

Structured elicitation plays another role in our investigation than the reading tasks in e.g. Labov's classic studies or Van Hout's (1989) investigation. In the latter cases situations were studied of stylistically meaningful variation between (what is left of) an urban dialect on the one hand and the standard language on the other. Reading tasks, involving passages of connected prose, word lists and minimal pairs, all written in the standard language, are used to trigger the most careful (typically at the same time the most standard-like) variants on the style continuum. In the Rimbürg situation, however, there is no such thing as *one*, single style continuum between the dialect and the standard language, since the structural distance is too big, involving salient non-continuous formal differences in all grammatical components. In many cases, there is something resembling "a sharp discontinuity between the local vernacular and any recognizable supra-local spoken norm" (Milroy 1987: 118). In our investigation the elicitation tasks, performed on the basis of 'stimuli' most of which were written in the dialect, were not designed to capture a certain part of existing stylistic variation.

Instead, they were meant to guarantee a certain minimum amount of realizations of each LV.

As was pointed out in § 4.3.3, after the elicitation session was finished, each speaker was asked ten questions concerning his 'socio-biographical' background. In almost all cases, the answers to these questions produced 5 to 15 minutes of spontaneous speech, in which one or several of the items addressed in the questions led to digressions on a range of more or less related topics.

4.4.2 The conversations

In the first of the two phases in the collection of spontaneous dialect use for the present study, groups of speakers rather than individuals were recorded. In these so-called '*in-group*' conversations, three speakers of the same age group participated. The nine representatives of each age group were therefore divided over three groups, making nine groups in all. Each of these groups was composed such that their members knew one another; many of them were even friends. On an agreed day and time (in 7 of 9 cases in the evening) the members of each single group and the investigator gathered in the house of one of the speakers, and after about half an hour the recorder was switched on for about an hour. The atmosphere during all recordings was relaxed and friendly (among other things because of a nearly constant supply of coffee and other drinks), and the conversations generally bore a highly unconstrained and natural character. The role of the investigator during these conversations was limited to that of participant observer. The investigator confined himself as much as possible to

- reactions to things said directly to him, and
- occasional attempts to involve speakers who for some reason or another did not sufficiently participate in the conversation.

The second of the two phases in the collection of spontaneous speech material consisted in the recording of '*out-group*' conversations. In these conversations each speaker was confronted individually with a speaker of another variety. The varieties involved were

- the Waubach / Groenstraat dialect (represented by the investigator), i.e. the part of the Ubach over Worms diasystem which, in contrast to the Rimburg dialect, is part of the B-dialects, the dialects spoken in the transition zone Ripuarian - East-Limburg,
- the Sittard dialect (spoken by Jos Schumans, at that time a colleague of the investigator, who worked as an applied linguist at Nijmegen University), representing the East-Limburg dialect-type (C), and
- the regional variety of the standard language - cf. 'Umgangssprache' (§ 1.3.2 above). This variety is characterized by interference of certain dialect features of the C-type, mainly -but not only- in the phonological component and prosody (Hinskens 1983: 87-

variety was represented by Henk Münstermann (also at that time a colleague of the investigator, working at the Department of Dialectology), a native of Heerlen, but not a dialect speaker.

The three interlocutors were of nearly the same age, namely around thirty at the time of the recordings.

With respect to the regional standard some comments are in order. According to our hypothesis III, the long-term process of dialect levelling is reflected in the short-term phenomenon of accommodation (Ch. 1). Accommodation as such may well be determined by the distance between the speaker's dialect and the contact variety, i.e. the variety spoken by the interlocutor (§ 4.1). Of the three contact varieties chosen, the standard language is the most distant, so accommodation is predicted to be largest in situations of contact between dialect speakers and a speaker of the standard language. To ensure that our speakers would still speak dialect in such a contact situation (a type of behaviour which is by no means uncommon in the region¹⁹), their interlocutor had to show somehow that he is a native of the same region. Occasionally larding one's standard production with dialect features is the proper way to do so, and a very common one in the Mine District at that.

The 27 dialect speakers in our sample were divided over the three out-group contact situations (or 'out-group conditions'). The planning was that the three speakers of each single 'in-group' would be assigned to a different out-group condition. Since, however, 27 speakers plus 3 interlocutors makes 30 people, all with their own schedules, this could not be realized. In one case (in the 'middle' age group), all three members of one in-group were assigned the same out-group condition; in six cases the members of one in-group were assigned to two different out-group conditions, and in two cases the original planning, to assign the three members of one in-group to all three out-group conditions, could be realized. At any rate, in eight out of nine cases the members of the same in-group were assigned to more than one out-group condition. Moreover, and most importantly, three representatives of all three age groups were exposed to each of the three out-group conditions.

The distribution of the speakers over the three phases in the collection of the speech material (including the three out-group conditions, labelled C2, C3, C4) is shown in Table 4.4 below.

Several things remain to be said about the *out-group* conversations. First, the conversations in C3 and C4 were started off by the investigator, who introduced the speaker and the interlocutor to one another. The speaker was informed about the fact that his interlocutor was a colleague of the investigator and that he was born and bred

¹⁹ Early 'evidence' is the commentary accompanying the answer by the Heerlen informant to question 4 of the written DC-questionnaire (see § 4.2.2 above - *Centraal Bureau* etc.) #8 from the year 1939. In this commentary the informant wrote that especially boys almost always spoke dialect, even at secondary schools and even to fellow pupils who did *not* speak it.

in Sittard (or Heerlen). For C4, it was furthermore pointed out that the interlocutor did not speak dialect himself but that he understood it very well. Finally the speaker was briefly informed about the aim of this last recording. This short introduction had still another, hidden goal. Since the introduction by the investigator was performed in the dialect and the interlocutor would occasionally respond to what the investigator said, it was also indirectly made clear to the informants that their interlocutor understood the Ubach over Worms dialects.

		type of material				
		directed individual	not directed interactional			
		struct. Elicit.	interloc. = In-group Rimbürg	interlocutor = Out-group		
				Gr./ Waubach	Sittard	regional stand. lng.
			C1	C2	C3	C4
age group spks.	20-30	9	9	3	3	3
	40-50	9	9	3	3	3
	60-75	9	9	3	3	3

Table 4.4 The distribution of the 27 speakers over the three phases in the collection of the material: structured elicitation, in-group and out-group conversations

During the ensuing conversation between the speaker and the interlocutor in C3 and C4, the investigator's role again consisted mainly of observation. The presence of the investigator, as a speaker of one of the Ubach over Worms dialects, was functional, however: it was assumed that the investigator would function as a sort of 'point of reference' with respect to the speaker's code-use. This strategy has been successfully applied in the design of an experiment by Douglas-Cowie, in which "the other local person is auditor. Her presence should inhibit the extent of the speaker's shift towards the outside addressee" (Bell 1984: 200).

Before the recordings, the interlocutors in C3 and C4 had received an extensive list, with information about the specific aim of the sessions, things they should or should not do, directions regarding the content of the conversation, and a schedule of the sessions. The interlocutors were asked to behave as a sounding-board, with a different, or no active dialect background, respectively. They were instructed to talk in

order to confront the speaker with another dialect (or the regional standard), and not to converge towards the dialect of the speaker. They should, however, only talk to ensure that the speaker would not 'dry up' verbally. They were prepared for the fact that the investigator would remain outside the conversation as much as possible.

With respect to the subject of conversation, the interlocutors were asked

- to choose a theme for each individual speaker, on the basis of the information in the schedule (see below), and
- to introduce and dwell upon the theme 'carnival'. The recordings took place around carnival time, which is traditionally celebrated in this catholic region. So 'carnival' would be a very natural theme to talk about. Moreover, it is a topic of general interest, so even the people who intended not to participate in any festivities could take part in the conversation. Everybody can talk about how carnival has changed, about the way it is celebrated in other parts of the country, about specific carnival songs, the Rimborg carnival activities (the pageant, specific local activities, the carnival-club), etc. A final reason to consider carnival as a good theme, is the fact that it is associated with the dialect; all authentic songs are sung in some local dialect, and most of them deal with specific local issues.

The schedule, finally, contained information about the day and time of the several recording sessions and the speakers to be encountered. With respect to the speakers, general information was included concerning name, age, profession and fields of interest or involvement. These were extracted mainly from the 5 to 15 minutes of spontaneous speech triggered by the ten questions on aspects of 'socio-biographical' background, which were asked after the elicitation session. In some cases, the schedule also contained impressions regarding salient character traits.

Of course, *mutatis mutandis*, in the relevant respects the C2-conversations also satisfied the several requirements discussed here.

During the conversations, all speakers spoke dialect. One of the nine speakers in the C4 sessions initially said to have some problems in talking dialect to a standard speaking interlocutor; indeed, during the first ten minutes or so his linguistic behaviour showed frequent code-switching, but during the remaining part of the recording he spoke dialect. None of the other speakers who figured in any of the out-group recordings appeared to experience such problems - thanks to the effective and highly natural way the interlocutors functioned, as well as the fact that generally these types of contact situation are common in the Mine District. Our out-group conditions cannot be considered as a new experience for the people in the sample. In answer to the question concerning general dialect use (see § 4.3.2 above), asked at the end of the elicitation session, one of the speakers thus commented upon what we labelled the C4 type of situation:

- (3) "that's a habit. When I just simply speak dialect to them, then I don't mind if they talk Dutch to me, I don't care"
(inf. 39 - my translation, FH)

With respect to interaction as well as to contents, the out-group conversations, which took some 40 to 60 minutes, are generally rather unrestrained. Still, as Menge (1983: 545) remarks, even recordings in which the speaker's dialect use is not elicited, i.e. in loose or 'casual' conversations, must be regarded as 'experimental' situations, among other things because the recording session is usually the first time the speaker and his interlocutor meet. Seen from this perspective, the *in-group* recordings constitute the most lifelike material in our corpus, since the dialect speakers knew each other.

A methodologically weak point in the design of the *out-group* conditions is the fact that in C3 and C4 the speakers were confronted with two people (even though one of them -the investigator- did not participate significantly), whereas in C2 the speakers talked to one person only. This objection was overcome partly, because in C3 and C4 the investigator, who played the role of auditor, left for about 5 minutes "to go to the toilet".

Well over four months passed between the first elicitation session (recorded November 19, 1986) and the last out-group recording (March 29, 1987). In all, we recorded some 64 hours of dialect use.

4.4.3 Speech material, independent variables and hypothesis-testing; more on the design of the investigation

In § 4.1 independent variables were derived from the operationalizations of the hypotheses deduced from the sociolinguistic model. In this subsection we will briefly consider the question which of the independent variables figure in which parts of the corpus of material collected. This will enable us to determine which hypotheses can be tested with which part of the material.

The independent variables in our study are

- a. the age group of the speakers, assuming the values Older, Middle and Younger;
- b. the contact situation, with the values *I* (= C1) and *O* (= C2, C3, C4);
- c. the geographical spread of the LVs, with the values *A* < *B* < *C*;
- d. the linguistic dimensions, which differ from LV to LV.

With the exception of *b*, all independent variables are present in all three subcorpora. This variable 'contact situation' is systematically varied in the non-directed material.

Dialect levelling is operationalized as a significant decrease in dialect use in apparent time; this is a *sine qua non* with respect to levelling in relation with the other parameters mentioned in the three hypotheses. Since all three types of speech material were collected for the three age groups, this essential condition can be met throughout the entire corpus.

Testing the first hypothesis, which says that dialect levelling affects variation on the dialect - standard language level as well as variation of the interdialectal type, requires comparison of the levelling of dialect features that distinguish the dialect

from the standard language (A, B and C) with the levelling of features that distinguish dialects (A and B, and A, respectively). This can be tested in all three types of speech material.

According to our second hypothesis, dialect levelling is gradual in linguistic as well as in extralinguistic respects. The extralinguistic parameters are time and space. As we saw, time is represented in the three age groups in all three subcorpora. Our operationalization of geographical space as areal spread of the dialect features ($A < B < C$) is also present in all three subcorpora. As for this extralinguistic variable, the second hypothesis can therefore be tested in all three subcorpora as well. The linguistic dimensions along which dialect levelling is claimed to proceed gradually are for the most part specific to each dialect feature. The elicited material was structured in such a way that it permitted testing (in the 'indirect discrete point' way) of the part of hypothesis II which claims that dialect levelling is linguistically context-sensitive. Obtaining sufficient realizations of the LVs in the relevant linguistic conditions in the 'direct integrative' materials *I* and *O* simply requires patience and some luck, so that we can say that in all three respects hypothesis II can also be tested in all three subcorpora.

The third hypothesis claims that dialect levelling is foreshadowed in accommodation. As was pointed out already, apparent time indications of the process of dialect levelling can in principle be detected in all three subcorpora, since they all contain the independent variable age group of the speakers (*a* above). Studying accommodation requires comparison of day-to-day dialect use among speakers of the same dialect with dialect use realized in contact situations. In the two subcorpora of conversational dialect, the variety that the speakers were exposed to (*b*) is systematically varied. In those parts of the corpus we can look for accommodation on

- a 'global' level: we predict more frequent use of dialect features in *I* than in *O*, and if this turns out to be the case, accommodation can be studied on
- a more specific level, by relating it to the out-group condition: C2, C3 and C4.

Testing the third hypothesis, which comes down to comparing patterns of dialect levelling with those of accommodation, is thus possible in the non-directed, conversational speech data.

In short, hypotheses I and II can be tested in all three types of data. Hypothesis III can only be studied in the non-directed speech data, since this is the only part of the corpus in which all relevant factors are varied independently.

4.5 Analyses: from recorded speech material to data

Analysing the three types of material was a very labour-intensive and time-consuming part of the present investigation. This has two causes. First, the amount of material was relatively large; second, the analyses consisted of several steps. The end product

of this part of the investigation are 'the data'. For the major part the data assume numerical form. In this last section of the chapter we will briefly describe the most important steps in the analyses.

4.5.1 The selection of samples of spontaneous speech

The standardized elicitation procedures were designed so as to ensure sufficient and easily detectable realizations of the several LVs by each individual speaker. The conversational dialect use, recorded in situations of in-group and out-group contact, did not allow such direct analysis. In order to analyse these two types of spontaneous dialect use, the number of realizations of the selected LVs needed had to be traced from among the entirety of speech "in the natural setting".²⁰ Before we could do so, from each single recording samples had to be selected for analysis. To this end, protocols were made of all 9 + 27 conversations.

These protocols consisted of theme and sub-theme(s), relative participation of all persons involved (including occasional 'third persons' entering the room etc.), the degree of involvement of the speaker(s) in what he was (they were) talking about, fragments with frequent interruptions or, conversely, long periods of silence, instances of frequent code-switching, and dramatic changes in the sound quality - along with the counter numbers on the tape. On the basis of this information the samples to be analysed were chosen.

The central criterion for selection was interaction. We chose samples characterized by a reasonably equal distribution of conversational turns and contributions to ensure sufficient 'output' of each individual speaker, and to meet the requirement that the output be essentially 'interactional' (and thus more or less natural) speech.

With respect to the out-group conversations, a further criterion concerned the content: to guarantee a certain comparability of the 27 recordings, the theme 'carnival' had always been introduced.²¹ From all out-group recordings in principle the parts where 'carnival' was discussed was therefore included in the selection.

Moreover, in C3 and C4 (the recordings in which speakers were confronted with an interlocutor speaking Sittard dialect or regional standard language) those parts of the conversation in which the investigator was clearly involved verbally were excluded. The part in which he "went to the toilet" was always included. Restricting the analyses of the C3 and C4 conversations to the parts in which the investigator was not involved was a specific operationalization of the 'interaction' criterion.

²⁰ Oxford's 1982: 121 ff. 'direct integrative' test. Cf. §§ 4.4.1 and 4.4.3 above.

²¹ Other reasons as well as a range of possible sub-themes have been summarized in § 4.4.2 above.

4.5.2 Decisions on more specific levels

In the preceding subsection we briefly presented the most important general procedures adopted to select samples of speech from the subcorpora containing conversational dialect use for analysis. In the present subsection we will briefly point out some general decisions with respect to the analyses proper of the speech material in the three subcorpora.

- In the elicited material, speakers sometimes hesitated and gave several variants. In such cases only the variant that was given last was scored, with the exception of the LV *subjunctive*. However, 'unintended' realizations of the LV at issue at a certain point in the elicitation were scored in case the definitive variant constituted a 'missing value' with respect to the LV. In these cases a response typically takes the form

(4) "we usually don't say [x], but [y]"

For example:

(5a) "we usually don't say [γ^1 at], but [tæin]"

or

(5b) "I never say [γ^1 ɛ:lə], but [ko·pə]"

with the dialect and standard lexical variants of 'garden' (5a) and 'to buy' (5b).

If [y], in contrast with [x], was not relevant to the LV involved, [x] was scored.

- In all three types of material, only clear cases were scored; in case a realization was not clear (due to e.g. an interruption, 'sloppy' articulation, insufficient understanding), it was left out of analysis.

In the relatively few cases in which it could not be determined whether a certain realization was part of a stretch of speech produced in the dialect (in case of a possible insertion of non-integrated elements or rules from another variety, code-mixing or -switching), it was likewise excluded from analysis. Processes of linguistic change incidentally appear to obscure the picture in this respect: phenomena which cannot be considered to belong to the dialect of certain (say older) speakers may very well have become part of the dialect of other (younger) speakers. Moreover, switching or mixing are often gradual, in that dialect and (usually) standard language are not directly juxtaposed; rather the transition is made in several steps (cf. Hinskens 1983: 181; 1985a: 142). Our approach was also rather severe in this respect, in that possibly doubtful cases were excluded.

Excluded from the analyses were also the few cases in which it was not clear whether or not a specific element (usually a morpheme) fell within the scope of a

certain LV - in other words whether or not it was part of the 'virtual potential', in Van Hout's (1989: 143) terminology. This problem seems of significance only to lexicalized rules.

Further remarks regarding the analysis of the use of specific LVs in our corpus will be made in Chs. 5 and 8.

4.5.3 Transcription, levels of measurement and quantification

As a first step in the analysis proper of the speech material in the three subcorpora, transcriptions were made of the informants' speech, except where direct scoring was unproblematic (as in the case of the LVs in the morpho-syntactic subcomponent). Thus, a part of the realizations of the LVs in the elicited material was directly scored, while the other part was first transcribed and then scored. All realizations of the relevant LVs in the in-group and out-group material were analysed in the latter way: first transcription, then scoring.

The unit of transcription was the word; in the elicited material, particularly words in the realization of which several LVs are relevant were transcribed. The transcription system used was the International Phonetic Alphabet, and the transcription of the relevant words can be characterized as broad ('phonemic') but naturalistic, especially with respect to the variant(s) used by the speakers. Since our investigation does not aim at exploration but rather at testing specific hypotheses, "a selective transcription" was felt to be "more useful than a detailed one" (Milroy 1987: 117 - cf. the assumption labelled 'Irrelevance of Phonetics' in Labov 1975: 109). Except the phonetic realization of the word at stake, the transcriptions also included relevant contextual (phonetic/phonological and grammatical) information, needed to determine the influence of the linguistic environment.

With respect to scoring, some remarks should be made. For each separate realization of an LV the speaker was assigned '1' in case the (proper) dialect variant was used, and '0' in case it was not. However, some LVs do not constitute binary or dichotomous variables; this holds very evidently for the '*Ach-laut*' allophony, γ^1 -weakening and the vocalic feature *I-lowering*. Word-final *t-deletion* soon turned out to have an intermediate realization, characterized by what appears to be partial release.²² Phonetically, the variants of each of these LVs form a continuum. For the sake of the analysis, for each of these LVs the continuum was divided into three

²² Whereas the presence of /d/ or /t/ may be a dichotomous phenomenon phonologically, *t-deletion* is a multi-valued phenomenon phonetically (Goeman 1983: 57). With respect to the city dialect of Nijmegen, Van Hout 1987, 1989 approaches 't/d deletion' as a gradual reduction process operating on the phonetic/phonological level and governed by phonetic/phonological factors. In his analysis, a distinction is maintained between deletion and reduction. Ultimately, however, for all groups in the speaker sample ultra-high positive correlations appear to hold between the two indexes (1989: 183).

quasi-discrete positions, each with its own value. In the case of these LVs, use of the variant on the 'dialect-pole' of the continuum was scored as '1' and non-use of the dialect variant as '0'; the score '0.5' was reserved for realizations in between²³; it has been assigned relatively infrequently, however. For both the dichotomous and the ordinal/interval LVs a 'missing value', i.e. *no* score was assigned in case the realization either could not be considered as a variant of the LV in question or was lacking altogether.

All in all, per speaker per LV per single realization the possible scores are either 0 and 1 or 0, 0.5 and 1. Scoring formed the first step in the quantification of the use of the dialect features. The second and last step in the process of analysis of the speech material in the three subcorpora will be described in the next subsection.

4.5.4 The data

Assigning a score for each single realization of an LV is a 'fundamental' measurement. In our investigation, 'derived' measurements (Altmann & Grotjahn 1987: 1028) could then start. To begin with, on the basis of the relevant single scores for each single speaker per subcorpus per LV, we calculated the proportion

frequency of use of a dialect feature / frequency of use of an LV

or, in other words,

n realizations of the dialect feature / n occurrences of the LV

Per speaker per corpus per LV these proportions were determined on two different levels: *overall* and *in specific linguistic conditions*. These proportions²⁴ constitute the raw data that served as the basis for further (statistical) analyses, carried out with the aid of the package of computational facilities SPSSx (SPSS Inc. 1986). The term 'linguistic condition' is used here as a cover term for context, environment, function, and the like. A set of complementary linguistic conditions we will call a 'linguistic dimension'. In § 6.2.2 below we will make these notions more explicit.

Finally, some remarks should be made in connection with the proportions, and especially the denominators (i.e. the number of scores, which form the number of occurrences of the LV).

²³ Cf. Chambers & Trudgill 1980: 61-64. See also Altmann & Naumann 1983: 657 on making phonologically distinctive features quantifiable.

²⁴ On the basis of the proportions, indexes were calculated which range from 0 to 100.

Per speaker the analysed part of the elicited material that was analysed consisted (in principle) of 586 words plus some cardinal numbers²⁵, say around 600 words. On the basis of the realizations of these 600 words, for each speaker 167 proportions of use of the respective dialect features were computed, 20 for the overall use of the several LVs and 147 for the use of the LVs in specific linguistic conditions. In these latter proportions the denominators, i.e. the number of occurrences of the LV, ranged from 4 to 81, with a mean of 9.16. On the overall level the denominators are, of course, many times larger.

As was pointed out, also for the speech in the two conversations, per speaker per LV we calculated the proportion of use of the dialect features on the overall level as well as in specific linguistic conditions. In the case of the latter proportions, the minimum denominator value for further computation was again 4. It goes without saying that there was much more between-speaker variation in the size of the denominators in the spontaneous, conversational material than in the elicited dialect production. For the data from conversational speech, the mean number of scores per speaker per LV per linguistic condition is 13.68 (in-group) and 17.30 (out-group). For both the in-group and the out-group speech material, per speaker the total number of proportions of the latter type was 31. Apart from the proportions of use of the dialect features on the overall level and in specific linguistic conditions, for the two types of conversational speech two proportions of another type were computed for each speaker. Details regarding the latter type of data will be given in § 8.5.3.

In all, the statistical basis of this investigation is itself based on of well over 75,000 scores (or observations).

Having discussed the main methodological aspects of our investigation, we will now consider the several LVs in some detail (Ch. 5), before presenting the findings (from Ch. 6 onward).

²⁵ Elicited with task 9, counting. See § 4.4.1 above.

Chapter 5

The linguistic variables

5.1 Introduction

In section 4.2 twenty-one dialect features were selected as independent variables; in § 4.2.4 we presented a brief overview and some examples of each feature. In this chapter these features are discussed in more detail. They are ordered according to their relative areal spread ($A < B < C$) and according to the linguistic components to which they belong.

Each dialect feature will be described separately. Where relevant and necessary, the presentation will cover dialect-geographical and/or methodological aspects. For most dialect features, a brief linguistic analysis will also be presented, where possible supported by historical facts. In some cases the structural coherence between several features will be made explicit.

5.2 The organization of chapters 5 and 6

Both the present chapter and the following one contain a number of subsections which deal with the twenty LVs or twenty-one dialect features.¹ To improve retrievability, the numbering of these subsections is parallel. We hope that this will make it easier for the reader studying the results in Ch. 6 to recover the description of the LV in question and vice versa.

5.3 A description of each LV

5.3.1 '*Ach-laut*' allophony - A phonology

The voiceless palato-velar fricative /ç/ and its voiced counterpart /ɣ¹/ together correspond to the velar-uvular fricative in the standard language, which no longer has an opposition between voiced and voiceless velar-uvular fricative phonemes. /ç/ and /ɣ¹/ are generally considered to be strongly indicative of 'a Limburg accent'. This

¹ The difference between these two notions has been discussed in § 4.3 above.

articulatorily minimal difference in realization plays a paramount role in their recognition by non-Limburgers.²

Whereas dialects of the B and C type have /ç/ post-vocally and the standard language has /x/ throughout, in the A-type dialects palato-velar /ç/ after front vowels corresponds to velar-uvular /x/ after tautomorphemic back vowels. Both variants have voiceless and voiced realizations. For example:

- | | | | |
|------|------|----------------------------------|------------------------------|
| (1a) | kriç | | 'war' |
| | daːx | | 'day' |
| (1b) | vleç | vleç ¹ ə ³ | 'fly'; 'flies' N or 'to fly' |
| | zaːx | zaːxə | 'said' or 'say!'; 'to say' |

Quite evidently this coexistence of two "phonetic variants or allophony", i.e. this "systematic phonetic" variation (Schane 1973: 5, 6), results from place assimilation. Except in this connection, the A-type dialects do not have velar-uvular fricatives; in all other cases the velar fricatives are always palato-velar.

In German and most of its dialects, the allophony is general, and the variants are known as 'Ich-laut' and 'Ach-laut'. The 'Ich-laut' occurs initially and after consonants (l, r, n), hence Kloeke's observation that velar non-consonants are followed by Ach-laute (1982: 40). With respect to velarity of the preceding segment in connection with 'Ach-laut', for the Rimbürg dialect two things should be added:

1. /x/ hardly ever seems to occur after /u/ in the Rimbürg dialect, although this vowel is clearly back. The problem, however, is that the set of relevant lexical items is very small. Many, if not all of the items that end in /ux/ in standard German have /ɔːx/ in the Rimbürg dialect. Moreover, the Rimbürg equivalents of items such as /huːç/ ('high', the variant of the B-type dialects) will be excluded from our analyses because of the shwa off-glide. In the case of these items we may even be dealing with a diphthong of which the shwa is the second segment.

In the few exceptional cases where /x/ does occur after /u/, it is realized by speakers from the oldest age group only, and even for those speakers /x/ seems to be rare in that position. So it seems as though dialect levelling has already deprived /x/ from part of its natural environment. It is conceivable that /u/ was never really part of the structural description of the allophony rule: as [x] is phonetically lower than [ç], its occurrence may be less optional -so to speak- after [-high] back vowels. We will return to this issue in § 5.3.2 below.

² On the place of articulation of the velar fricative in standard Dutch cf. Collins & Mees 1981: 38, 161; on the loss of the voice differentiation see Slis & Van Heugten 1989: 131; on the palato-velar articulation as an indicator of 'Limburgerness' cf. Adriaensen-Busch s.a.: 85, among others.

³ γ¹-weakening may subsequently change this form into [vlejə]. Cf. (12) in § 5.3.2 below.

In the case of this allophony, levelling is to be expected, since an extra rule generally constitutes a structural burden. Moreover, the output of the rule is almost identical with the segment /ʀ/, which can be perceptually troublesome.

2. In the most extreme cases, /x/ is realized so far back that it is a uvular: this [χ] nearly coincides with /ʀ/ (compare Kloeke's 1982: 48 observations for German). The fact that German 'warten', phonetically 'wa[ʀ]ten' corresponds to Dutch 'wachten', 'wa[x]ten' or 'wa[χ]ten' ('to wait') seems to be related to this phenomenon.

In all varieties of Dutch, the several variants of 'r' normally cause a preceding long vowel, unless it is /a/, to be followed by a shwa off-glide ('breaking'). In the cases where /x/ is realized as a uvular, the same effect occurs, as in:

- (2) [do:ʰχs] < /doːxs/ 'did' 2 sing.
(info. 13, 27)

In the rare texts that are written in the dialect (such as Collon MS) the 'Ach-laut', and especially the voiced [ʁ], is often spelled as 'r'.

Taking into consideration what has been remarked under 1., a formalized linear description of this allophony would be:⁴

- (3)
$$\begin{bmatrix} -\text{son} \\ +\text{cont} \\ -\text{cor} \\ +\text{high} \\ -\text{back} \end{bmatrix} \rightarrow [+ \text{back}] \quad / \quad \begin{matrix} C_0 \\ \mu \end{matrix} \begin{bmatrix} -\text{cons} \\ +\text{back} \\ (-\text{high}) \end{bmatrix} \text{ ---}$$

 $\mu = \text{morpheme}$

Given the inventory and distribution of the segments of the dialect, and especially the distribution of /χ/, the /ç/ should be regarded as underlying. The domain of the rule is the morpheme⁵, as it is in German (cf. Grosse 1970: 375; Kloeke 1982: 40, among others). E.g. the dialect variants of separable compound verbs such as *aan#geven* 'to pass, to hand, to give', and *aan#gaan* 'to ignite' or also 'to concern' are [a:γ¹e:və], rather than *[a:ʁe:ʰvə] and [a:γ¹o:ʰ], rather than *[a:ʁo:ʰ].

In connection with this LV our investigation will be confined to the use of the 'Ach-laut' allophone /x/. Needless to say, it will be studied only in the relevant phonological environments, i.e. after non-high back vowels.

⁴ With respect to the distinctive features used here, Halle & Clements 1983 served as a point of reference.

⁵ The assimilation rule therefore operates lexically. Hall 1989 argues that this rule introduces an opposition which does not exist underlyingly; it thus violates Structure Preservation. Macfarland & Pierrehumbert 1991 propose a solution in terms of marking conditions and autosegmental links.

5.3.2 γ^l -weakening - A phonology

In most (Hagen 1981: 156) of the few Ripuarian dialects spoken in the Netherlands, as well as in the German stock (Simmler 1983: 1127), both in 'Anlaut'- and in 'Inlaut'-position, $/\gamma^l/$, the voiced correlate of the palato-velar fricative $/ç/$, may be realized as the palatal glide $/j/$. For example:

- (4) $jist\grave{a}R$ $<$ $\gamma^l ist\grave{a}R$ 'yesterday'
 $m\grave{a}eR^{\partial}j\grave{a}$ $<$ $m\grave{a}eR^{\partial}\gamma^l\grave{a}$ 'tomorrow, morning'

Irrespective of its position, the prefix ' $\gamma^l\grave{a}$ ', which occurs most frequently in the past participle, is also part of the domain of the weakening rule. In the *Rede* in the dialect of Aachen, which was written around 1750 (cf. § 4.2.2 above), the past participle form 'opjetrocke' ('pulled up', here in the meaning of 'raised', 'reared') is attested; this is, however, the only occurrence of this dialect feature out of a total of some 185 possible realizations.

In former days the $/\gamma^l/ \rightarrow [j]$ shift may have had a wider geographical distribution, as evidenced by the fact that even a C-dialect such as the one spoken in Sittard has occasional $/\gamma^l/ \rightarrow [j]$ variants, e.g.

- (5) $i:\partial d\grave{a}R$ $<$ $j\partial d\grave{a}R$ $<$ $\gamma^l\partial d\grave{a}R$ 'every'

As regards synchronic inter-systemic variation with respect to this rule, among other things the correspondence between German 'gegen' and Dutch 'jegens' ('against') is mentioned by Schönfeld.

In the Ripuarian dialects spoken in Germany, $[j]$ in this connection corresponds synchronically to $/g/$, the voiced velar stop, in standard German. On g-weakening in Northern German dialects neither Grosse (1965: 63-64), nor Scheutz (1987: 1607), nor Schlobinski (1987: 62-63) appear to make the correct generalization. Historically, correspondence relations between $/g/$, $/\gamma^l/$ and $/j/$ do not seem rare in Germanic languages, compare, for instance, also 'pre-English', where "the palatalized form of $[g]$ - presumably this phoneme had a spirant character - coincided with another phoneme, $[j]$ ", (Bloomfield 1933: 376).

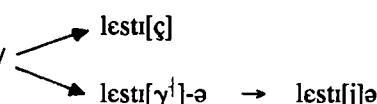
Let us, however, return to the intrasystemic variation. At present γ^l -weakening as a productive rule is geographically limited to a part of the Dutch 'edge' of the Ripuarian dialect group. In these dialects the γ^l -weakening rule can be seen at work not only before vowels. As far as consonants are concerned, in Dutch onsets the velar fricative can be followed by a liquid (l , r) or by the coronal nasal (n). Standard Dutch has some twelve lexical items with an initial velar fricative followed by $/n/$. At least half of these are loans and learned words (Van Dale 1984: 946). Some examples are *gniffelen*, 'to snigger, to chuckle', *gnose*, 'gnu', *gnoom*, 'gnome', and *gnosis*, 'gnosis'. In

the dialects studied here none of these items is used. Hence the only remaining relevant consonant cluster is [γ^l liquid], which may surface as [j liquid], e.g.

- (6) $\gamma^l a^s$: ja^s 'gas'
 but also
 $\gamma^l ra^s$: jra^s 'grass'
 $\gamma^l la^s$: jla^s 'glass'

As an onset cluster, [j liquid] is, however, highly marked, because it violates the conditions regarding the sequencing of sonority classes. At least two different reactions to this marked situation are conceivable. The first one would consist of [j] becoming syllabic, which might result in either an /i/-like quality or in a shwa following [j]. Another course of action might, of course, consist of preventing the rule from applying in this context.

The rule may also apply to an underlying / γ^l / if it is followed by a vowel-initial morpheme, as in the case of inflected adjectives:

- (7) $lesti/\gamma^l/$ 
 'difficult, awkward'

The rule can also be observed to apply across word boundaries, where it affects a final /ç/ after resyllabification and sandhi voicing (§ 5.3.15 below), as in⁶

- (8) $iç \# \# \text{ } \gamma^l x$ resyllabif. & sandhi voicing $i\gamma^l \gamma^l x \rightarrow i\gamma^l x$
 'me too'
 $iç \# \# aləs$ resyllabif. & sandhi voicing $i\gamma^l aləs \rightarrow ijaləs$
 'I / me everything'

and even when the word-final /ç/ is preceded by a non-vowel, i.e. a liquid, and a svarabhakti-shwa, respectively:

- (9) $rimbœR^əç \# \# i$ resyll. & sandhi voicing $/\gamma^l/ \rightarrow [j] \rightarrow rimbœR^əji$
 'into Rimbürg'

⁶ Where it does not seem to matter too much, we will occasionally use notation of linear phonology - non-linear representations have the disadvantage that they require more space.

(All examples presented here are taken from our recorded material.) γ^l -weakening before a word boundary is, of course, a connected-speech phenomenon.

The fact that the rule may apply across morpheme and word boundaries suggests that we are dealing with a strictly phonological rule. Closer examination reveals that the $/\gamma^l/ \rightarrow [j]$ rule applies in syllable onset position, irrespective of how 'early' or 'late' the syllable boundary is assigned - cf. the syllabification of the surface structure of the last example:

(10)

$$\begin{array}{cccc} \sigma & \sigma & \sigma & \sigma \\ \swarrow \searrow & \swarrow \searrow & \swarrow \searrow & \swarrow \searrow \\ \text{r} & \text{i} & \text{m} & \text{b} & \text{æ} & \text{r} & \text{ə} & \text{j} & \text{i} \end{array}$$

If there is no svarabhakti shwa (and hence a syllable less), then $/\zeta/$ can *also* be resyllabified and voiced - and therefore become a potential prey for the weakening rule.

We conclude that the rule, which operates in syllable onsets, is postlexical. Although γ^l -weakening before a word boundary is a connected-speech phenomenon, even in *presto* style the rule does not apply across a word boundary if that boundary is followed by a liquid. This suggests that in late resyllabification only the least marked option, CV, is chosen, to the exclusion of options like CCV.

If one compares the γ^l -weakening rule to the 'Ach-laut'-allophony rule, similarities as well as differences catch the eye. Whereas the former rule changes a voiced palato-velar fricative into a sonorant, the allophony-rule changes a palato-velar fricative (whether voiced or voiceless) into a velar-uvular one. The γ^l -weakening rule turns out to be determined by syllable structure, whereas the allophony rule, which is an assimilation phenomenon, operates both in onset and in coda position, vid.:

(11)	la·x \$	'laugh'	pres. indic. sing. 1
	la· \$ xə	'to laugh', 'laugh'	pres. indic. plur.
	ox \$	'eye'	
	o \$ xə	'eyes'	

Finally, since the allophony rule operates within words, while γ^l -weakening may operate between words, the expected order would be 1. 'Ach-laut' allophony, 2. γ^l -weakening. As the 'Ach-laut' allophony rule has the effect of changing palato-velar fricatives into velar-uvular ones after ([-high]?) back vowels, it bleeds γ^l -weakening. The fact that a word such as $/vu:\gamma^l\text{ə}l/$, 'bird', can be realized as $/vu:\text{ə}j\text{ə}l/$ (KKD 1987: 34) implies that in this environment the fricative is palato-velar rather than velar-uvular. The existence of this variant adds phonological support to our observation that $/u/$ hardly ever triggers the 'Ach-laut' allophone - cf. § 5.3.1 above.

In the elicitation tests the application of the γ^l -weakening rule following $i\#(\#)$ was not included.

One could maintain that in the idiolects of speakers who apply the rule exceptionlessly it would appear that / γ^1 / has been excluded from the segment inventory and that a merger of / γ^1 / and /j/ has taken place. It must be doubted whether such speakers exist, however. In any case, they do not occur in our Rimbürg sample. Moreover, / γ^1 / must be assumed to be at least underlyingly present in the stem-final position of certain verbs (cf. KKD 1987: 30):

- (12) vle- γ^1 -ə ~ vle-j-ə 'to fly', 'fly' pres. indic. plur. 1 & 3
- | | | |
|--------|----------------|---------|
| vlyç-s | 'fly' | sing. 2 |
| vlyç-t | 'flies' | sing. 3 |
| vlo-x | preterite stem | |

We propose the following provisory formalization:

- (13)
$$\begin{bmatrix} -\text{son} \\ +\text{cont} \\ +\text{cor} \\ -\text{back} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{cons} \\ +\text{son} \end{bmatrix} / \sigma [_]$$

However, given the fact that Dutch and its dialects, which all have a rule for final devoicing, allow voiced obstruents only in onset position phonetically, the formalization of γ^1 -weakening as a domain limit rule (Selkirk, after Nespor & Vogel 1986: 15-16) appears to be redundant.

It seems rewarding to approach the focus of the rule along the lines of feature geometry (see § 2.3.3). Assuming that the palato-velar / γ^1 / is a complex segment, weakening can be expressed as simplification. Vid. (14).

- (14) PLACE
 / \nexists
 coronal dorsal

If this representation of / γ^1 / as a compound place segment is correct, then γ^1 -weakening may be regarded as a delinking process which simplifies the segment to a simple coronal, as far as the place node is concerned. A change in the major class specifications is also needed, as in (13). This operation transforms it into /j/.

Now it becomes clear that this rule is subject to opposite forces. On the one hand γ^1 -weakening simplifies the segmental structure⁷, but on the other weakening is highly unnatural in onset position (§ 2.4.6).

⁷ An alternative formal account is briefly presented in Hinskens 1995b.

5.3.3 I-lowering - A phonology

The lax vowel /ɪ/ may have an especially open realization, when followed by a tautosyllabic non-labial nasal, i.e. /n/ or /ŋ/. Sometimes the openness of the vowel, which may be stressed or unstressed, is as low as a closed /ɛ/. For example:

(15) st.l.: <i>spin</i>	B and C: <i>ʃpɪn</i>	A: <i>ʃpɪʀn</i> / <i>ʃpɛ^ɪn</i>	'spider'
<i>ring</i>	<i>ɾɪ:k</i>	<i>ɾɪ:ʀŋk</i> / <i>ɾɛ^ɪ:ŋk</i>	'ring' N
<i>ben</i>	<i>bɪn</i>	<i>bɪʀn</i> / <i>bɛ^ɪn</i>	'(I) am'
<i>klein</i>	<i>kliŋ</i>	<i>kliʀŋ</i> / <i>kle^ɪŋ</i>	'small'
<i>geen</i>	<i>ɣ^ɪmə</i>	<i>ɣ^ɪʀnə</i> / <i>ɣ^ɪɛ^ɪnə</i>	
	<i>ɣ^ɪŋ</i>	<i>ɣ^ɪʀŋ</i> / <i>ɣ^ɪɛ^ɪŋ</i>	'no one' ⁸

but

(16) st.l.: <i>Wim</i>	B and C: <i>wɪm</i>	A: <i>*wɛ^ɪm</i>	'Wim' (name)
<i>gym</i> = [ɣɪm]	<i>ɣ^ɪɪm</i>	<i>*ɣ^ɪɛ^ɪm</i> / <i>*jɛ^ɪm</i>	'gymnastics'

A diasystem-like representation of the variation in the realization of /ɪ/ before non-labial nasals is

(17) st.l.: {ɪ, ɛ, e, ei} ~ B and C: /ɪ/ ~ A: /ɪ ~ ɪʀ ~ ɛ ^ɪ /
--

In Collon (MS), one of the rare texts written in the Rimbürg dialect, this dialect feature is orthographically represented in among other things the forms 'kenger' (st.l. *kinderen*, B and C /kɪŋəʀ/, 'children'), which occurs three times, and 'wengter' (st.l. *winter*, B and C /wɪŋkt^əʀ/, 'winter').

No other dialects in the region show this feature. Still, the Rimbürg dialect is not completely isolated in this respect; in his monograph on the dialect spoken in Heerlen, Jongeneel (1884: XXII) mentioned what we call I-lowering as one of the features distinguishing the dialect of Aachen, which had it, from the one of Heerlen, which did not. Indeed, in the *Rede*, which was written in the dialect of Aachen around 1750 (cf. § 4.2.2 above), the rule can be seen to apply variably.

The shift from /ɪ/ to /ɛ^ɪ/ as such is not uncommon. In their 1972 study Labov, Yaeger & Steiner established "that it is 'tense' vowels that rise and non-peripheral 'lax' (in this case, short) vowels that fall" (Trudgill 1986: 133). If a following nasal is a natural context for lowering, the question must be considered why /m/ is absent from the conditioning environment. It is possible that there were simply no endogenous words ending in /ɪm/ when the rule came into being and was phonologized.

A formalized, synchronic description of the phenomenon may look as follows:

⁸ Inflectional forms for sing. masc. and sing. fem. & plur., respectively.

$$(18) \quad \begin{bmatrix} -\text{cons} \\ +\text{high} \\ -\text{tense} \end{bmatrix} \rightarrow [-\text{high}] \quad / \quad \begin{array}{c} \sigma \\ | \\ \text{---} \end{array} \begin{bmatrix} +\text{cons} \\ +\text{nas} \\ -\text{lab} \end{bmatrix}$$

In Halle & Clements 1983 (p. 33), whose distinctive feature framework is adopted here, /u/ also fits the structural description of the focus. However, the dialects at issue do not have this segment, so that the focus of the rule uniquely picks out /i/. Strictly speaking, it is redundant to stipulate the fact that /i/ and the following nasal should be part of the same syllable, since lax vowels are not permitted (or at least very rare) in open syllables in Dutch.

Intersystemic variation in pairs like

- (19) A- and B-dialects vs. stand.lang.
 'linge' 'lendenen' 'loins'

could result from lexicalization of the same rule. Rather remarkable in this respect, finally, is the presence, especially in south Limburg, of pairs of nearly identical family names such as

- (20) Bindels
 Binders vs. Benders
 Penders
 Linsen Lens(s)en, etc.

5.3.4 Dorsal fricative deletion - A phonology

Lexical morphemes ending in /vowel dorsal fricative t/ optionally drop the fricative and lengthen the vowel. In addition, after non-low vowels a shwa off-glide appears; we may refer to this as diphthongization or breaking. In all cases the tone contour becomes HLH, but we will not be concerned with this here. Some examples of the application of this rule are:

- (21) nax(t) : na:t 'night'
 reç(t)s : re:ʔts 'right'
 niç(t) : ni:ʔt 'cousin, niece'
 zɔ¹x(t) : zu:ʔt 'looked for' preter. sing. 1 or 3
 zœ¹ç(t) : zy:ʔt 'sigh' pres. sing. 1 or 3

In Collon (MS) we find the forms 'reêtse' ('right', adj. with inflectional ending - *rechtse* in standard orthography) and 'opbraad' ('brought up', past participle - *opgebracht* in Dutch standard spelling).

The rule is not blocked if a syllable boundary intervenes between the dorsal fricative and the /t/, cf.:

- (22) dɔx \$ tər : dɔ:ʔ \$ tər 'daughter'
 zɔ¹x \$ tə : zu:ʔ \$ tə 'looked for' preter. plur.

The rule applies variably in the *Rede* - hence in the dialect spoken in Aachen around the year 1750. In words of the type in (21) non-A dialects usually display deletion of the /t/ rather than the fricative. This fact is of importance to our analysis of such forms; in our view /t/ forms part of the lexical representation, but it is extra-syllabic, as will be shown (§ 5.3.14). There is one single word in which the feature shows a wider geographical diffusion, occurring in B-dialects as well:

- (23) C zeks < zɛgs < zɛgəst ~ A and B ze:ʔs 'say' pres. 2 sing.
 C zekt < zɛgt < zɛgət ~ A and B ze:ʔt 'says' pres. 3 sing.

The A- and B-forms probably evolved from /zeçs/ and /zeçt/, respectively. From the contemporary forms, along with forms such as the last two in (21), it appears that after inflection the rule operates in exactly the same fashion. It is blocked, however, in derived forms - such as (in standard orthography, with morpheme boundaries indicated by a hyphen):

- (24a) wacht-er 'guardsman'
 pacht-er 'leaseholder'
 macht-ig 'mighty'

- (24b) in
 gewicht-ig 'weighty'
 the rule *cannot*, but in
 gewicht 'weight'
 the rule *can* apply

- cf. *re:ʔt-ɪç / *ri: t-ɪç 'right' Adj.
 but
 re:ʔt 'right' N

According to Hagen (1981: 157), the feature displays lexical diffusion. It may indeed well be the case that the rule is no longer productive and has been lexicalized. However, the few examples of non-application that Hagen gives can be accounted for by invoking the principle of 'the avoidance of homonymic clash': the form 'zacht'

('soft') does not undergo the rule because the product [za:t] would be identical to the highly frequent inflected verb form 'said' (preter. sing. 1 or 3). Applying the rule to 'gerecht', or rather 'gerich(t)' in the *B*- and *C*-type dialects, would result in [jəri:ʔt]. This form resembles the dialectal [ri:ʔt], 'arse', a taboo word.

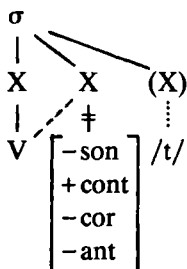
It goes without saying that the cases where the rule is blocked as mentioned by Hagen as well as the two forms in (24), were left out of the data that were studied for our investigation.

A formal explanation for the phenomenon consists of two steps: the deletion of the fricative and the lengthening of the vowel - in this order. The second step, vowel lengthening, is a case of timing tier stability. This type of operation preserving the phonological weight is referred to as compensatory lengthening (and the specific phenomenon known to Germanists as 'Ersatzdehnung' in turn is a manifestation of the mechanism; Bloomfield 1933: 279-80 gives a number of other cases from historical linguistics). Since lengthening of the following /t/ is ruled out by the fact that long consonants do not occur in Dutch and its dialects, the only way to preserve the weight of the syllable is vowel lengthening (cf. Kaye & Lowenstamm 1986), thus:

- (25) step 1: V x t → V ∅ t
 step 2: * V ∅ t → V t t
 V ∅ t → V V t = [V:t]

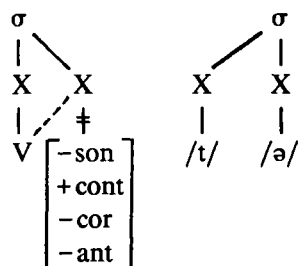
An autosegmental account of the phenomenon might roughly look like this:

- (26) the type 'nacht', in which /t/ is extra-syllabic, i.e. untimed⁹:



⁹ As will be extensively argued in § 5.3.14 below.

(27) the type 'dochter', in which /t/ is in the onset of the second syllable:



In both types dissociation of the feature bundle on the phonetic tier is followed by reassociation of the timing slot to the preceding vowel, with the effect that it either lengthens (/ɑ/) or diphthongizes (all other vowels). Moreover, in words of the type 'nacht' /t/ is associated to its timing slot, with the effect that it will be phonetically realized.

In case dorsal fricative deletion has not been lexicalized, level ordering should prevent the rule from applying to derived words. Preterite forms and past participles such as /za:t/, /la:t/, /jəza:t/, /jəla:t/, which correspond to the B- and C-dialect variants /zaʃ(t)/, 'said', /laʃ(t)/, 'laid, put down', /ɣ^ləzaʃ(t)/, 'said past prt.', /ɣ^ləlaʃ(t)/, 'laid past prt.', respectively, should not be considered as counterevidence, as we are dealing with strong verbs (a-thematic in the case of e.g. /zakə/, 'to say'), most of whose conjugated and inflected forms constitute separate lexical entries.

5.3.5 [s] in diminutive suffix - A morphophonology

Diminutivization is one of the many aspects in which Limburg dialects differ radically from the standard language. (An account of diminutivization in standard Dutch can be found in e.g. Booij 1981: 134-35; Trommelen 1984 *passim*). Throughout the Limburg dialect area, -kə is distributionally by far the most frequent form of the diminutive suffix, cf. (28) below.

In all, it seems quite legitimate to claim that the underlying form is /kə/. This claim is supported by the fact that the historical root of the suffix is most probably -kən < *ikina (Schönfeld & Van Loey 1970: 225; Seebold 1983), Middle Dutch texts attesting 'kijn' and 'ken'.

(28) *simplex ending in:* *diminutive suffix:*

<u>cons</u>	<u>obstr</u>	<u>plos</u>	b, p	kə
			d, t	jə
			g, k	skə
		<u>fric</u>	v, f	kə
			z / ʒ, s / ʃ	kə
			ɣ ¹ / ʁ, ʃ / x	skə
	<u>son</u>	<u>nas</u>	m	kə
			n	kə
			ŋ	skə
		<u>liq</u>	ʀ	kə
			l	kə
		<u>glides</u>	j	kə
			w	kə
	<u>all vowels and diphthongs</u>			kə

The allomorphs -jə, after dental plosives, and -skə, following velar consonants, are phonologically conditioned. In the obstruents Final Devoicing invariably neutralizes /b; p/ etc. into [p], etc. The -jə allomorph may partly be understood in the light of the consideration that the articulatory distance between adjacent /t/ and /k/ is simply too great. This allomorph may also be accounted for along other lines: it is not unlikely that /k/ in this specific configuration in these dialects easily fell prey to the Second or High-German consonant shift - as happened in the contiguous Franconian and other Middle-German dialects throughout the entire paradigm (Seebold 1983: 1251). But even if the change to /x/ or /ç/ took place autonomously (as Schönfeld & Van Loey 1970: 229ff. argue with respect to the entire Dutch language area), the later shift from /ç/ to /j/ is nothing more than a simple place assimilation. Final /n/ does not assimilate to the following suffix-initial /k/, hence e.g. [menkə], rather than *[menkə], 'man-DIM'.

The -skə allomorph must, on the other hand, be explained by the fact that /k/ is too similar to /k/¹⁰, /ç; x/ and /g/, the latter of which is the second part of the segment sequence underlying [ŋ]. To obtain anti-gemination, several options are available. Degemination would inhibit perceptual requirements (transparency, recove-

¹⁰ As has already been pointed out, a sequence of identical consonants is precluded by the fact that Dutch and its dialects do not have geminates.

rability), and dissimilation of the first segment would have disrupted the paradigm. Therefore, an epenthetic /s/ has been interposed.¹¹

As has been pointed out already (§ 2.5), a rule that distinguishes many Limburg dialects, including the one spoken in Rimbürg, from other varieties of Dutch is the palatal realization of /z/ and /s/ in syllable-initial position before a consonant (as well as in certain other positions). The dialects spoken in the Ripuarian-East-Limburg transition zone also have this rule in the case of the diminutive suffix following velar consonants, thus treating the /s/ as if it belonged to the syllable formed by the suffix. However, an /s/ in the coda of the last syllable of the simplex remains unaffected, e.g.

(29)	ɲnaps	-	DIM	ɲnep[s]-kə	'(a small glass of) brandy'
	ɲwips			ɲwip[s]-kə	'the feeling of being slightly drunk'
	fɪts			fɪt[s]-kə	'(small) bicycle'

As a result, the dialects in the transition zone have a few minimal pairs of diminutives such as

(30a)	bɔ ⁺ ks	bœ ⁺ k[s]-kə	'(small) pair of trousers'
	bɔ ⁻ k	bœ ⁺ k-[ʃ]-kə	'(small) book'
(30b)	aks	ek[s]-kə	'(small) axe'
	ek	ek-[ʃ]-kə	'(small) corner'

The vocalic difference between the simplex forms is neutralized by the umlaut rule that forms part of the diminutivization procedure. The only difference between the diminutives is the realization of the /s/. In the first word of each pair this /s/ belongs to the lexical form of the noun and is hence in coda position.

In this connection, the Rimbürg dialect is different: it only has a non-palatalized epenthetic /s/, hence [s], preceding this suffix. In the Rimbürg dialect the pairs of diminutives in (30a, b) are therefore homophonous. In the vast majority of cases, the Ripuarian dialects spoken in the Netherlands have -[sjə] here (KKD 1987: 20 for the dialect of Kerkrade). The Rimbürg dialect thus forms a small enclave of non-palatalization of the /s/ in the -skə diminutive allomorph after velar consonants. In this respect it is not idiosyncratic, however, since the East-Limburg dialects all have -skə here.

In short, dialect-geographically the situation looks like this: moving from the southeast to the northwest one would find

- A: Ripuarian dialects: -sjə

¹¹ It is quite common for /s/ to fulfil euphonic functions, also in standard Dutch. See Schönfeld & Van Loey 1970: 228 for four different historical-morphological explanations for /s/ after "gutturals", especially /k/" - my translation, FH.

- A: Rimbürg dialect: -skə
- B: dialects spoken in the transition zone Ripuarian-East-Limburg: -ʃkə
- C: East-Limburg dialects: -skə

Seen from the perspective of the dialects immediately west of Rimbürg, which have -ʃkə, a formalized description of the phenomenon would be:

$$(31) \begin{bmatrix} -\text{son} \\ +\text{cont} \\ -\text{ant} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{ant} \end{bmatrix} / \begin{bmatrix} +\text{cons} \\ +\text{high} \end{bmatrix} \text{---} \begin{matrix} \text{kə} \\ \text{DIM} \end{matrix}$$

All five A-features selected for study were used in one utterance by one of the older informants recorded for this investigation. This particular utterance could well serve as a Rimbürg 'shibboleth':

- (32) tʃæ¹_{nskə} hat ɔ¹_χ jət vœ¹_r də kɛ¹_{ŋ:əR} do^ə jəla¹_t
 a. b. c. d. e. f.
 'the little boy has also something for the children there laid' i.e.
 'the little boy also left something for the children'
 a. [s] in dim.suffix
 b. 'Ach-laut' allophony
 c., e. γ¹-weakening
 d. I-lowering
 f. dorsal fricative deletion

5.3.6 R-deletion - B phonology

Although the Limburg realization of 'r' often has a fairly fricative character (resembling the voiced 'Ach-laut', /ʀ/), the transcription symbol /r/ is used. In the IPA alphabet this symbol is reserved for the rolled uvular 'r'. This decision is based on phonological considerations: as will be seen below, in Limburg dialects word-final /t/ is variably deleted after obstruents. The fact that final t-deletion never occurs after 'r' therefore indicates that 'r' cannot be a fricative.

Unlike the East-Limburg dialects (C) and the standard language, Ripuarian dialects¹² (A) and the dialects in the transition zone Ripuarian-East-Limburg (B) usually show deletion of post-vocalic /r/ preceding an alveolar obstruent. Examples are:

¹² Including the Aachen dialect of around 1750 - witness the *Rede*.

(33)	A/B	C (i.c. Sittard)	stand.lang. (orthogr.)	
-d	e- ^ə t	e- ^ə rt	'aarde'	'earth'
	ko- ^ə t	ko- ^ə rt	'koord'	'cord, string'
-t	vi- ^ə t	ve- ^ə rt	'vaart'	'navigates, drives' pres. 3 sing.
	kɔ ¹ t	kɔrt	'kort'	'short'
-ts	me- ^ə ts	me- ^ə rt	'maat'	'March'
	hats	hart	'hart'	'heart'
-s or - [ʃ]	by- ^ə ʃ	bø-ʃ	'beurs'	'purse'
	du- ^ə ʃ	do-ʃ	'dorst'	'thirst'
	wu- ^ə ʃ	wo-ʃ	'worst'	'sausage'

The shwa offglide in the non-low vowels cannot be considered as an indication that we are dealing with R-vocalization rather than deletion, as the C-dialect forms in which the /r/ is present also have a shwa offglide. The shwa following non-low vowels is a result of the following /r/; in this position shwa also occurs in all other dialects of Dutch - including in those with an apical 'r'.

The right-hand environment (alveolar obstruents) deserves attention: in the historical development of Dutch, alveolar consonants (including nasals) following a postvocalic /r/ behave as a group with respect to quantitative and/or qualitative changes in the vowel and the direction of R-metathesis (Schönfeld & Van Loey 1970: 66-71). In the case of this dialect rule, however, nasals are excluded from the right-hand environment.

In the A- and B-dialects, just as in German¹³, a following /ts/ may be an affricate. It is also part of the lexical representation of e.g.

(34a)	mets	st.l. 'mes'	'knife'
	nets	'net'	'net'
	kats	'kat'	'cat'

In the dialect use of a few very old Rimburch (as well as Groenstraat and Waubach) speakers it can occasionally be observed also in onset position before a vowel as a variant of the much more frequent [s], in e.g.

(34b)	tsup	'soep'	'soup'
	tsukær	'suiker'	'sugar'
	tsimæns	'Simons'	[a family name]

¹³ Kloeke (1982: 42-45) argues that there are no phonological grounds to consider /pf/ and /ts/ as affricates in present-day German.

The commentary accompanying the response by the Waubach informant to question 2 of the written DC-questionnaire (cf. § 4.2.2 above - *Centraal Bureau*, etc.) # 8 of the year 1939 seems to suggest that in the Rimburch dialect of those days the affricate was common in the syllable onset preceding a vowel. In the Kerkrade dialect it still seems to be widely used (KKD 1987: 34, 36).

Two remarks should be made with respect to the following /s/ or [ʃ]. First, as can be concluded from the examples given here, C-dialects such as the one spoken in Sittard also show R-deletion in this environment (cf. Jongeneel 1884: XXIII). Secondly, /s/ is underlying. In A-, B- and a subset of the C-dialects /s/ is palatalized in R __ #, independently of whether /r/ is deleted or not.

The explanation for R-deletion may be the fact that without deletion all relevant words form superheavy syllables. As a natural process, R-deletion constitutes a change into a less marked structure (a heavy syllable). This interpretation of the phenomenon is supported by

- (1) the fact that no compensatory lengthening occurs;
- (2) the fact that R-deletion in this position can be found in several different languages and dialects;
- (3) the fact that the A- and B-dialects, but also other varieties of Dutch, simplify the syllable structure by shwa-epenthesis (svarabhakti), if another consonant than an alveolar obstruent follows tautosyllabically. This operation results in a disyllabic structure.

The similarity between R-deletion before alveolar obstruents and the A-feature dorsal fricative deletion is quite remarkable: in both cases a dorsal consonant following a vowel is dropped, and in both cases the deletion is locally motivated. There are differences as well. First, in $V\zeta t \rightarrow V:t$ an obstruent is involved, whereas it is a sonorant in R-deletion; this is the only difference between both sounds, however. Whereas in the case of dorsal fricative deletion compensatory lengthening preserves syllable weight, R-deletion is a move towards a less marked syllable structure and is therefore not followed by compensatory lengthening. Thirdly, there is an important difference in geographical spread between both dialect features.

For phonological theory it may be rewarding to analyse the structural relations between the realization of 'r' and the fricative 'g', the existence of the 'Ich-laut' / 'Ach-laut' allophony, the weakening of / γ^1 / in onset position, dorsal fricative deletion cum compensatory lengthening, and the deletion of /r/ before an alveolar obstruent in the A-type Limburg dialects.

A formalized linear description of the latter dialect feature may look as follows:

$$(35) \quad /r/ \rightarrow \emptyset \quad / \quad \begin{bmatrix} -\text{cons} \\ +\text{voc} \end{bmatrix} \quad \text{---} \quad \begin{bmatrix} -\text{son} \\ +\text{cor} \end{bmatrix} \quad C_0]_{\mu}$$

μ = morpheme

The possibility should not be excluded that this rule has been lexicalized: some words, such as

(36)	marʃ	/ *maʃ	st.l. 'mars'	'march'
	by:ʔRt	/ *by:ʔt	'buurt'	'neighbourhood', 'vicinity'

never occur *r*-lessly. However, if they are used in an *r*-less form, they must be considered as 'hyperdialectalisms'. On the other hand, for many other relevant words it seems as if they *have* to be realized *r*-lessly in the dialect.

Another reason why lexicalization cannot be excluded is the fact that there are two inflected verb forms which usually occur *r*-lessly, namely /vi:ʔt/, 'drives' and /hy:ʔt/, 'hears', from /vi:ʔR-t/ and /hy:ʔR-t/. In both cases the *-t* is a pres.ind. 3 sg. marker, so the rule seems to have been generalized to derived forms. These two forms are, however, exceptions, as similar forms (such as /ʃty:ʔR-t/, 'navigates') never undergo *R*-deletion.¹⁴

5.3.7 *n*-deletion - B phonology

In the A- as well as in the B-type dialects¹⁵, there is a limited number of monosyllabic words ending in a short vowel (not including shwa) and /n/ which variably show deletion of final /n/. If the /n/ is deleted, no nasalization or compensatory lengthening of the vowel occurs. It can affect the following words¹⁶:

(37)	PREPOSITIONS		
	/van/	van	'of'
	/in/	in	'in'
	/an/	aan	'on' (iff realized with a short vowel)

¹⁴ However, /va:R-ə/, 'to drive', varies between irregular and weak conjugation, and /hy:ʔR-ə/, 'to hear', is straightforwardly irregular. On the other hand, verbs such as /ʃty:ʔR-ə/, 'to navigate', are weak.

¹⁵ And in the dialect of Aachen around the year 1750 - judging from the *Rede*.

¹⁶ In each case, the first form is a broad phonetic rendering of the dialect variant. This is followed by the orthographical representation of the standard variant and the gloss. The first three monosyllabic, *n*-final words are classified as prepositions; however, under certain grammatical conditions they function as adverbs. We will return to this issue in § 8.5.2.

CONJUNCTION

/ɛn/	<i>en</i>	'and'
------	-----------	-------

ADVERBS

/dan/	<i>dan</i>	'then, than'
-------	------------	--------------

/nun/	<i>nu, nou</i>	'now'
-------	----------------	-------

/ɦɪn/	<i>heen</i>	'away, to'
-------	-------------	------------

Vfin (1 st person sing. present indic.)

/ɣ ¹ ɔn/	<i>ga</i>	'go'
---------------------	-----------	------

/krɪn/	<i>krijg</i>	'get'
--------	--------------	-------

/hɑn/	<i>heb</i>	'have'
-------	------------	--------

/dɔ ¹ n/	<i>doe</i>	'do'
---------------------	------------	------

/zɑn/	<i>zeg</i>	'say'
-------	------------	-------

/zɪn/	<i>zie</i>	'see'
-------	------------	-------

/ʃtɔ ¹ n/	<i>sta</i>	'stand'
----------------------	------------	---------

/ʃlɔn/	<i>sla</i>	'beat'
--------	------------	--------

/kɑn/	<i>kan</i>	'can'
-------	------------	-------

/kɪ ¹ n/	<i>ken</i>	'know'
---------------------	------------	--------

/bɪn/	<i>ben</i>	'am'
-------	------------	------

Vfin (3 rd person sing. present indic.)

/kan/	<i>kan</i>	'can'
-------	------------	-------

Vfinfin

/hɑnː/	<i>hebben</i>	'to have'
--------	---------------	-----------

- In the A- and B-type Limburg dialects, the dialect variants of these twenty words all
- have a short, lax vowel preceding the final /n/,
 - with the exception of /ɛn/ (standard Dutch *en*, 'and'), they can all occupy the final position in S,
 - may but need not attract a certain degree of stress (in contrast to e.g. nouns and adjectives), and
 - may but need not be realized with a tone contour. See § 2.3.5 above.

At least in the dialects spoken in Ubach over Worms, the doublet /du/ and /tun/, 'then' exists; whereas the latter form is identical to the standard language variant, the former results from lexicalization of n-deletion.¹⁷

As can be seen in the examples given above, several word classes are represented: prepositions, adverbs, a conjunction, and verbs. As appears from the words in (37), the pres. 1 sing. form of the so-called 'a-thematic' verbs (because they do not have the underlying and historical theme vowel following the stem and preceding the suffix marking person and number) also belong to the group of words that may show final

¹⁷ And of another dialect feature too, witness the initial consonant. See Schönfeld & Van Loey 1970: 54-55 and Leenen 1954: 20 ff. for similar cases.

n-deletion. Except for /ben/, '(I) am', Standard Dutch has n-less forms with a *tense* vowel in the corresponding forms of all these a-thematic verbs.

Irrespective of the grammatical class, all relevant words are highly frequent in use.

As regards the environment, the final /n/ may be deleted before consonants and vowels, as well as before a pause. The deletion may take place in word-final position, both before a morphologically independent word and in a compound:

- | | | | | |
|-------|---------|-------------|-------------|--------------|
| (38a) | ibildə | inbe·ldə | 'inbeelden' | 'to imagine' |
| | ɪʔo·əmə | ino·ə(də)mə | 'inademen' | 'to inhale' |

- | | | | | |
|-------|---------------------|---|---------------|-------------------------------|
| (38b) | ɪɣ ^l aŋk | < [in] _M [ɣ ^l aŋk] _M | <i>ingang</i> | 'entrance, entry' |
| | va [?] e: | < [van] _M [e:] _M | <i>vaneen</i> | 'from one another', 'asunder' |

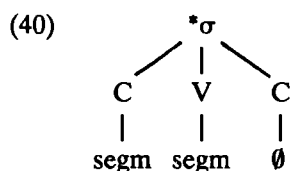
even though in Dutch the first member of a compound always bears primary or word stress. We conclude that n-deletion is a domain limit rule operating at the end of the phonological word (Nespor 1985; Selkirk after Nespor & Vogel 1986: 15-16).

In the A- and B-type dialects there is one monosyllabic word, also a verb form, in which a final consonant other than /n/ may be deleted: this is /zal/, standard Dutch orthographically *zal*, 'shall, will' pres. 1 & 3. sing. Just like the n-deleting words, 'zal' forms a heavy syllable. Moreover, as Hooper (1976: 199-201) points out, C in the right margin of a syllable is a weak position, witness among other things the fact that assimilation usually takes place in that position. C in the left syllable margin, on the other hand, typically undergoes strengthening.

In the dialects studied here, deletion of /l/ resp. /n/ results in an open syllable ending in a lax vowel. Lax vowels in open positions are excluded or at least rare in Dutch (cf. § 5.3.3 above), as well as in German. For German, Wiese (1986: 4) claims:

- (39)
- $$\begin{array}{c}
 *σ \\
 / \quad \backslash \\
 C \quad \quad V \\
 | \quad \quad | \\
 [-tense]
 \end{array}$$

an alternative formulation, which is more in line with the principles of *CV Phonology* may be:



It seems wiser to avoid the ‘non-wellformedness’ symbol * here, since both in German and in Dutch there are some (if only very few) such words, e.g. the interjection /ba/, ‘bah!, pshaw!’ in Dutch. Their occurrence seems to be limited to the right-hand edge of higher-level prosodic domains (probably the intonational phrase or even the utterance). We maintain, however, that in these languages syllables ending in a lax vowel, such as produced by n-deletion in monosyllabic words of the type described above, are marked.

There seems to be another problematic aspect, which concerns the question whether n-deletion bleeds I-lowering before non-labial nasals. As far as extrinsic ordering is relevant, the data suggest the natural ordering 1. I-lowering and 2. n-deletion (from the speech material recorded for this investigation):

- (41)
- | | | |
|--------------------|-----------|--|
| $\epsilon^\perp n$ | ‘in’ | |
| i^\perp | ‘in’ | |
| he^\perp | ‘towards’ | (underlying dialect form /hɪn/, Dutch standard orthography <i>heen</i>) |

Especially the two realizations of ‘in’ are common in the Rimbürg dialect. The second one can be found twice in the text of the *Rede* in ‘egene’, ‘in the’ (line 198), and in the compound ‘egank’, ‘entrance, entry’ (line 251).

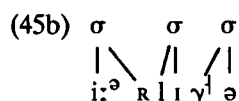
For the relevant items, we propose the following rough formal description of the variable described:

- (42)
- $$/n/ \rightarrow \emptyset \ / \ C_0 \left[\begin{array}{c} \sigma \\ | \\ \begin{array}{l} -\text{cons} \\ +\text{voc} \end{array} \end{array} \right] _]_M$$

M = phonological word

For our study of the Rimbürg dialect, the (non-)application of the n-deletion rule was not elicited before nasals.

after resyllabification, the adjective has the structure:



since /ɣ^l/ occupies the onset position¹⁸, γ^l-weakening applies, resulting in

(45c) [i:ə R l ɪ j ə]

Another example of a word in which the A-type postlexical rule for γ^l-weakening operates on the B-type derivational suffix -liç plus shwa is the dialect variant of standard Dutch *geestelijke*, 'clergyman':

(46)	st.l.	<i>geestelijke</i>
	C:	ɣ ^l e:s(t)likə
	B:	ɣ ^l e:s(t)lɪɣ ^l ə
	A:	je:s(t)lijə

Whenever the dialectal derivational suffix plus inflectional shwa suffix was realized as [lijə] in the elicited dialect use of our informants, a '1' score was assigned for each of the two dialect features.

5.3.9 Preterite suffix - B morphology

Whereas purely morphological dialect features could not be detected in the A-set, the only B-type morphological dialect features of interest satisfying all of our criteria for selection (§ 4.2.1 above) pertain to verb conjugation. These LVs can be described relatively straightforwardly.

In the Dutch standard language the preterite suffix of weak verbs surfaces either as -də or as -tə, depending on the last segment of the stem: the voice quality of the first segment of the suffix is identical to the voice quality of the stem-final segment, whether redundant or distinctive. In the Limburg dialects this agreement relation does not exist. In the C-group, the great majority of Limburg dialects, the preterite suffix categorically takes the form -də, with regressive assimilation of [+voice] to the stem-

¹⁸ Further research is needed to determine whether /ɣ^l/ is *also* or *only* in the onset, in other words whether or not it is ambisyllabic. The same holds for the [ɣ^l] resulting from postlexical resyllabification and sandhi voicing exemplified in (8) above.

final segment if relevant, i.e. if an obstruent precedes.¹⁹ In the A- and B-type dialects, however, the suffix is invariably -ət.

In connection with the shape of the preterite suffix, the geographically gradual character of the spread of dialect features in transition zones is manifest: whereas the neighbouring village of Nieuwenhagen (to the west of Rimburch), in all respects conforms to type B, with respect to the preterite suffix it is nowadays a C-dialect (cf. Roukens 1947: 38), as the Heerlen dialect was already a hundred years ago (Jongeneel 1884: 24, 26).

Schematically, the distribution of suffix types over the relevant dialect-geographical types is:²⁰

(47)

	verb stem underlyingly ending in	
	Vowel / Glide / Liquid / Nasal / Obstr [+voice]	Obstr [-voice]
stand.lang.	də	tə
C-dialects	də	də
B- & A-dial.	ət	ət

In case the verb stem ends in a vowel, in the B- and A-type dialects a glide is inserted between the stem and the suffix. The choice between /j/ and /w/ depends on the quality of the preceding vowel (but cf. Gussenhoven 1980: 177).

The situation sketched in the above scheme may constitute evidence in favour of Zonneveld's analysis of Dutch weak verbs (cf. Zonneveld 1982; cf. Trommelen & Zonneveld 1979: 88, 119-23). In his analysis Dutch weak verbs possess in their underlying form a shwa theme vowel, which follows the stem. In the preterite the

¹⁹ For data see e.g. Van Ginneken 1913: 174. Syllable-final obstruents are always voiceless, since Dutch and German have an automatic rule of devoicing which applies to obstruents at the end of a syllable.

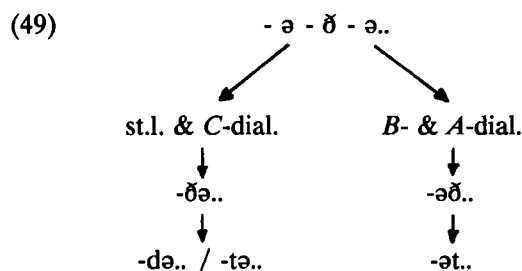
²⁰ We will not consider the suffix system marking person and number; we only add that all A-, B- and C-type Limburg dialects are identical in this respect and that they all contrast with the standard language.

theme vowel is in turn followed by a preterite suffix /ð/²¹ and a suffix marking person and number, which consists minimally of shwa, thus:

(48) stem - theme ə - preter. suffix ð - person & number marking suffix ə ...

This analysis accords with Langohr's (1936: 42-43) analysis of the suffix in a group of C-type Limburg dialects spoken in Belgium via an 'allegro rule' avant-la-lettre to the reconstructed historical form '-ədə' for 1 and 3 sing. In the *Rede*, written in the Aachen dialect of around the year 1750, the form 'laachede', 'laughed' 3 plur., is attested (the last shwa here is the person and number marker).

The historical interpretation we propose²² is the following: whereas the standard language and the C-type dialects truncate the theme vowel, the B- and A-type dialects delete the shwa in the person- and number-marking suffix. This is visualized in (49):



The latter part of this claim is synchronically supported by the fact that the post-preterite suffix part of the ending, i.e. the suffixes marking person and number, is identical for *all* Limburg dialects.

5.3.10 Prefixless past participles - B morphology

The most striking morphological characteristic of the past participle of Dutch verbs with lexically prefixless infinite and conjugated forms is the prefix 'ge'-.²³ In Dutch dialects, however, past participles lacking the prefix 'ge'- are not rare. Especially in the northern and northwestern dialects prefixless past participles are common. In this

²¹ This hypothesis seems compatible with at least one of the two theories for the origin of the suffix (Schönfeld & Van Loey 1970: 173; Van Bree 1977: 328). According to this theory Verner's Law changed Proto-Indo-European /t/ into /ð/. If it is assumed to exist also in present-day Dutch, for which no independent evidence seems available, this /ð/ is subject to absolute neutralization. The hypothesis of the dental fricative as a preterite suffix was critically discussed by Gussenhoven (1980), just mentioned.

²² A similar interpretation can be found in Goossens & Verheyden 1983: 175.

²³ The main exception is constituted by the group of 'inseparable compound verbs' (ANS 1984: 427 - my translation, FH).

respect it would be misleading to speak of deletion, since historically prefixless past participles were the norm. In official documents written by Rimbürgers in the years 1394 and 1542, for instance, the past participles 'geben', rather than 'gegeben', 'given', and 'commen' rather than 'gecommen', 'come' were used.²⁴ Prefixation is an innovation, spreading from Brabant, Limburg and Utrecht (Schönfeld & Van Loey 1970: 161).

In the case of the present-day Limburg dialects, the greatest structural distance from the standard language in this respect exists in the A- and B-groups. The verbs which may have prefixless past participles are:

- | | | | |
|------|--------|----------|---|
| (50) | briːŋə | / breːŋə | 'to bring' - cf. text following (23a) above |
| | koːmə | | 'to come' |
| | viːŋə | / veːŋə | 'to find' |
| | weːədə | | 'to become' |
| | bliːvə | | 'to stay' |
| | kriːjə | | 'to get' |

As was pointed out by Schönfeld with respect to the first four, these are verbs which already have a perfective meaning of themselves, so that prefixation of the perfective marker 'ge'- would have resulted in semantically ill-formed (tautological) structures.

Possibly for the same reason the verbs

- (51a) eːətə 'to eat'

with the 'ge'-less past participle /ɣːeːətə/, and

- (51b) vreːətə 'to cram, to gorge'

with the 'ge'-less past participle /vreːətə/ also seem to belong to this group. There may, however, be another reason why they can take on prefixless past participle forms: at present the correct prefixed past participle of /eːətə/ is /ɣːəɣːeːətə/, in the A-type Limburg dialects it is /jəjeːətə/ or, basilectally, /jeːətə/. The standard language has the infinitive /etə/ with the past participle /ɣːəɣːetə/. Remarkable in both the dialect and the standard language form is the /ɣː/ between the prefix and the stem. In the dialectal prefixless participle this /ɣː/ is also present. Our explanation is that this /ɣː/ forms the remnant of a former prefix 'ge'- (which never receives stress, witness the shwa), so that dialectal /ɣːeːətə/ is *not* a prefixless participle form (cf. Koelmans 1979: 69). The participle /vreːətə/ may have been constructed analogically; it seems more probable, however, that this form as well is only seemingly

²⁴ Well over a hundred of these documents and deeds are reproduced in Hanssen 1912: 315 ff.

prefixless. Our assumption that the infinite form is etymologically prefixed is supported by the etymological information for the lemma 'vreten' in the WNT:

(52) *vər - etə(n)

cf. 'hongerēn' ('to be hungry') - 'ver-hongerēn' ('to starve'). This would mean that historically the standard past participle 'gegeten' and 'gevreten' are morphologically 'ill-formed' constructs, comparable to present-day

(53)	German infinitive	'glauben'	<	'gelauben', 'to believe'
	past participle	'geglaubt'		
	as against			
	Dutch infinitive	'geloven'		
	past participle	'geloofd'		

From a synchronic perspective as well as from the point of view of the standard language and other prefixing dialects, however, the past participles /ɣ¹e:ʔtə/ and /vre:ʔtə/ are non-prefixed forms, and therefore they will be treated as such in this investigation.

Excluded from our study of the use of this dialect feature is a group of borrowed verbs of a specific lexical stratum and with a specific metrical structure. In the dialect the past participles of many of these verbs may be prefixless; in the German standard language they are all categorically prefixless. The material recorded for this investigation includes prefixless past participles of, among others:

(54)	ɔ ¹ pəre:ʔrə	'to operate'
	rafine:ʔrə	lit. 'to refine'
	pase:ʔrə	'to happen, to occur'
	eɣ ¹ alise:ʔrə	'to equalize, to smooth'
	təmte:ʔrə	'to fool around'

In some cases the prefixless past participles were even used as adjectives.

In general, an important morphological difference between the verbs in (50) and (51) and those in (54) is that the latter ones are regular and hence take the circumfix 'ge'-stem-{'d/t}' to form the past participle.

Our study will be limited to the semantically perfective verbs in (50) and the two verbs in (51).

Since there are many exceptions, both classes of prefixless past participles appear to be governed by minor rules: one for the inherently perfective verbs, and another one for the latter class of loans of a specific stratum and with a specific metrical

structure. As will be clear, prefixlessness in both cases prevents possible application of (bleeds) γ^1 -weakening.

For present-day standard German, Wiese (1992: 132) demonstrated that the past participle prefix *ge-* is attached if and only if the phonological word consists of *one* foot. The verbs in (50) and (51) above consist of one foot, but in the A- and B-dialects traditionally no prefix is attached to form the past participle; their behaviour is therefore at odds with the German pattern. Verbs such as those in (54), which are all latinate or French loans, invariably consist of more than one foot. In the A- and B-dialects their past participle can be realized without the *ge-* prefix - in conformity with the German pattern.

5.3.11 *Subjunctive - B morphology*

According to Schönfeld & Van Loey (1970: 156-57), the Indo-European verbal morphology distinguished four moods: indicative, imperative, subjunctive and optative. In Proto-German the latter took over the functions of the subjunctive, so that formally only the optative survived. Historically speaking, P. Goossens (1967) therefore correctly uses the term optative. We will nevertheless use the designation subjunctive.

In the present-day German standard language, both the present and the past subjunctive are in regular, though no longer very common, use. In the German dialects, use and meaning of the subjunctive vary greatly; whereas Bavarian dialects have several different forms for the past subjunctive, in the northern Low-German dialects the subjunctive is lacking altogether (Saltveit 1983: 1222-26). Except for a few isolated archaic forms, the subjunctive mood (mainly of the *present* tense - ANS 1984: 326, 448-50) is extinct in standard Dutch. The B-type Limburg dialects have *past* subjunctive forms for a limited number of strong and irregular verbs.

The state of affairs 35 years ago regarding the subjunctive in Limburg dialects was described by Paardekooper (1955: 213-15) on the basis of data for 14 verbs obtained through a questionnaire. According to the map on which Paardekooper represented his findings, the number of verbs used in subjunctive form was highest (i.e. all 14) in the dialects spoken in the southeast, especially in the border region²⁵, and became smaller the more one moves north and northwest. A minority of the dialects spoken west and north of the city of Roermond (situated in the geographical centre of the Dutch province of Limburg) had two, some others had one, but the majority of dialects had no verbs with a subjunctive form.

²⁵ Subjunctive forms of at least six different verbs can be found in the mid-eighteenth century Aachen dialect used in the *Rede*.

As for the morphology, the first striking fact is that all verbs with a past subjunctive form have a strong or irregular conjugation²⁶ with a non-front vowel in the preterite stem. Secondly, the subjunctive stem bears a regular relationship to the preterite of these verbs, in that it is the 'umlauted' counterpart. Between the preterite and the subjunctive there exists an umlaut relationship for the feature [back]:

- (58) preter. indic.: stem-vowel [+ back]
 subj.: [- back]

as can be seen in the examples above:

- (57'') preter. indic.: /ɣ¹ol/ /hou/
 subj. /ɣ¹øl/ /hœi/

So the subjunctive has a limited and surveyable distribution (here too, a 'minor rule' may be at work). At the same time it is transparent.

Both the syntactic and the morphological peculiarities of the subjunctive clearly interfere in the following standard language utterance (represented here in the standard orthography) from a 61 year old native speaker of the Waubach/Groenstraat dialect:

- (59) Jong, ik dacht jij was weg geweest.
 'Boy, I thought you were-subj. away been'
 'Boy, I thought you had gone'

where in the embedded sentence

- no conjunction is present;
- the finite verb takes on the preterite form, lacking a standard past subjunctive form;
- the finite verb is in second position, which is incorrect from the perspective of the grammar of standard Dutch.

The analyses of our informants' elicited dialect use were confined to the morphological aspects.

5.3.12 *Strong or irregular versus weak conjugation* - B / C morphology

There is a small group of verbs with a weak preterite in the A- and B-type dialects, but a strong or irregular one in the C-cluster as well as in the standard language - or vice versa. There is another small group of verbs with an irregular preterite in the A-,

²⁶ More correctly, they are ablauting weak verbs (P. Goossens 1967: 35 ff.).

B- and C-dialect types, and a weak one in the standard language; the conjugation of the verbs in this group constitutes a C-feature. Examples of both groups are:

(60)	<i>stand.l.</i>	<i>C-dial.</i>	<i>B- & A-dial.</i>	
B-feature	irreg	= irreg	irreg / weak	
	'vroeg'	vroç	vrox / vro ^ə γ ^l ət	'asked'
	'riep'	reip	rep / ropət	'called'
	weak	= weak	weak / strong	
	'voelde'	vœildə	vø ^l ət / vɔ ^l :lt	'felt'
	'hoorde'	hø: ^ə rdə	hy: ^ə rət / hu: ^ə t	'heard'
C-feature	weak	irreg	= irreg	
	'legde'	laç	lax / la:t	'laid, put'
	'zette'	zat	zat	'sat'

A historically correct account of the latter examples requires that they be defined as irregularly weak. The important thing is, however, the fact that in all dialects their conjugational class deviates from the one in the standard language. Likewise, in the case of the B-feature we are interested in the fact that the A- and B-type deviate from the C- and the standard language conjugation.

In early stages of Dutch, verb conjugation was a complex phenomenon, characterized by a "variegated multitude of forms" (Schönfeld & Van Loey 1970: 166 - my translation, FH). It is no wonder that many shifts have since occurred. With respect to the standard variety, Koelmans (1979: 28) observes that diachronically it is especially the shift between classes which attracts attention, mainly from strong to weak conjugation.²⁷ A nice illustration of this process is provided by the anonymous author of the *Rede* (written in the Aachen dialect, around 1750), when he complains that his contemporaries do not use the correct forms of the 'imperfectus':

- (61) "Da sage se ich *kicket*, in de platsch dat se saue sagen ich *keck*"
 'Then they say [I looked] instead of that they would say ...'

5.3.13 Stem vowel 2 & 3 sing. pres. indic. strong verbs - C morphology

The last of our set of LVs regarding verbal morphology occurs in Limburg dialects of the A-, B- and C-type.

²⁷ Examples can be found in Schönfeld & Van Loey 1970: 167-68.

In a limited set of originally strong verbs, in the present tense the forms for second and third person sing. undergo not only suffixation - as in the standard language, although endings are different. At the same time these forms are characterized by mutations in the stem vowel. The mutation takes place

(a) segmentally: whereas the forms for the other person and number combinations in the present indicative (as well as the whole preterite paradigm and the infinitive) have a long tense vowel, the forms for second and third person singular present tense usually have the short lax equivalents; moreover, back vowels undergo umlauting, i.e. fronting;

(b) supra-segmentally: the forms for second and third person singular and second person plural present tense have a tone contour HL, as against HLH in all other finite forms, with the exception of 2 plur.

An example:

(62)	infin.:	krũ:pə	'to creep, crawl'
	sing.		plur.
pres.	1	krũ:p	krũ:pə
	2	kr̥p̥s	kr̥p̥(t)
	3	kr̥p̥(t)	krũ:pə
pret.	1	kr̥:p / krũ:pæt	kr̥:pə / krũ:pæt
	2	kr̥:ps / krũ:pəts	kr̥:pt / krũ:pæt
	3	kr̥:p / krũ:pæt	kr̥:pə / krũ:pæt

Mutatis mutandis for the Ripuarian variant [krũ:fə].

As will be clear, the preterite of this verb has both a strong and a weak conjugation (a morphological peculiarity of dialects of the A- and B-type, which has been described in § 5.3.12 above), as is also the case with some other verbs in this group. The preterite paradigm is only given here, however, to show that vowel umlaut (in case the lexical form has a back vowel) and change of the tone contour take place in the present tense only.

Some of the other verbs with the same behaviour are:²⁸

(63)	γ ¹ ɛ:lə	/ je:lə	'to buy'
	γ ¹ ɛ:ʷə	/ je:ʷə	'to give'
	dɾa-γ ¹ ə	/ dɾa-ɾə	'to carry'
	lo-pə	/ lo-fə	'to walk'

²⁸ Here too we give the 'Ripuarian' variants, i.e. the forms that one would expect for Rimburg (for instance on the basis of Table 3.6) - with the side remark that the use of the High German forms is subject to strong variation and is probably decreasing.

As has been pointed out, umlaut is one of the two mutations in the stem of this group of verbs. Two things should be added. First, sometimes the effect of the [+back] → [-back] umlaut is hardly visible, as a consequence of ensuing rounding and/or closing, e.g.

- (64) $\text{dra}^{\sim}\gamma^1\text{ə} / \text{dra}^{\sim}\text{ɛə}$ 'to carry'
 2 & 3 sing.:
 $\text{dri}^{\sim}\text{ə}\{\text{s}, \text{t}\}$ closing /e/ → [i]

Secondly, verbs with a front vowel in the infinitive typically display rounding and/or closing, e.g.

- (65) $\text{ě}^{\sim}\text{ə}\text{tə} / \text{ě}^{\sim}\text{ə}\text{sə}$ 'to eat'
 2 & 3 sing.:
 $\text{it}^{\sim}(\text{s})$ closing /e/ → [i]
- $\text{bəd}\text{ě}\text{ɛ}^{\sim}\text{və}$ 'to spoil, to ruin'
 2 & 3 sing.:
 $\text{bəd}\text{ə}\text{ɛ}^{\sim}\text{f}\{\text{s}, \text{t}\}$ rounding /e/ → [æ¹]

5.3.14 *t*-deletion - C phonology

In most Limburg dialects word-final [t] may have three different sources. This [t] can be deleted following an obstruent. Final t-deletion is not confined to Limburg dialects of Dutch, however. Weijnen (1966: 239-40) and Goeman & Van Reenen (1985: 17 ff.) observed that final [t] is variably deleted in various parts of the Dutch language area. The deletion of final [t] also occurs in contiguous German dialects, such as the ones spoken in and around Cologne and Aachen, as well as in dialects of English.

Specific to Limburg dialects is the fact that final [t] may have three different origins. These are:

- *Lexical*: when it is part of a lexical morpheme, e.g. in

- (66a) $\text{ʃi}\text{ɛ}\text{t} / \text{ʃi}\text{ɛ}$ 'shift, as in night shift' sing.
 $\text{ʃi}\text{ɛ}\text{tə}$ plur.
- $\text{ɾə}\text{se}\text{pt} / \text{ɾə}\text{se}\text{p}$ 'recipe, prescription' sing.
 $\text{ɾə}\text{se}\text{ptə}$ plur.
- (b) $\text{e}\text{ɛ}\text{t} / \text{e}\text{ɛ}$ 'real(ly)'
 $\text{e}\text{ɛ}\text{tə}$ 'real' adj. with inflectional shwa

- *Morphemic*: when it is part of a verb conjugation. Two highly frequent conjugational [t]'s are to be investigated here:

1) In Limburg dialects -'t' is suffixed to the stem for both 3 sing. and 2 plur. to form the present tense. The forms for these two person and number combinations are isomorphic in this tense and mood, but not elsewhere in strong and irregular verbs, as can be seen in the following scheme:

(67a) 3 sing. 2 plur.

indic pres	- t	- t
pret str/irreg	∅	- t
weak	∅	∅
subj (pret)	∅	- t

For example:

(67b) *str./irreg.*
'drɪŋkə' 'to drink'

	3 sing.	2 plur.
indic pres	drɪŋk-t	drɪŋk-t
pret	drɔŋk	drɔŋk-t
subj (pret)	drœŋk	drœŋk-t

weak
'wɪrʷkə' 'to work'

indic pres	wɪrʷk-t	wɪrʷk-t
pret	wɪrʷk-ət	wɪrʷk-ət

-t is a 'porte-manteau' morpheme for person & number and - in the case of 3 sing. - for mood and tense. The complete paradigm for the present indicative is:

(68a) sing. plur.

1	∅	- ə
2	- s	- t
3	- t	- ə

(68b)	sing.	plur.
1	driŋk	driŋk-ə
2	driŋk-s	driŋk-t
3	driŋk-t	driŋk-ə

The same holds for weak verbs (such as 'wɪr^əkə'). Interestingly, with respect to the present tense paradigm both Jongeneel (1884: 13, 26) and Münch (1904: 169) note 'apocope' of *-t* after obstruents in 3 sing. only. At present, however, *-t* can also be deleted in the 2 plur. form. Since there are generally no further distinctions in the verbal morphology between these two parts of the paradigm²⁹, *t*-deletion seems undesirable. On the other hand, Germanic languages (and their dialects) do not pro-drop, and thus *t*-deletion merely reduces the syntagmatic redundancy. From the point of view of Kiparsky's (1972: 206) strong - weak division of morphological categories, *t*-deletion in a system of "verb agreement in a language with no pronoun deletion" is to be expected. So while *t*-deletion after obstruents serves a phonotactic purpose (222-23), distinctness on the syntagmatic level is still guaranteed.

2) As in the Dutch standard language, the vast majority of regular weak verbs form their past participle by the discontinuous affix or circumfix. Cf. (69):

(69) 'ge' - stem - '{d / t}'

A- and B-type dialects have two regular exceptions with respect to the prefix, described in § 5.3.10 above. The first of these two groups of exceptions (the one that will be studied), which consists of only eight verbs, does not contain regular weak verbs. The suffix part of the past participle of these verbs is not *-t*.

In the regular weak verbs the suffix is /d/ underlyingly. It is also phonetically [d] if the participle is used adjectivally and an inflectional shwa is attached. Non-final segments, however, are not relevant to the present feature. Since, as we pointed out already, there is an automatic rule for final devoicing, an underlying /d/ in final position surfaces as [t], which may fall prey to *t*-deletion, as shown in (70) below.

The final [t] in a past participle can always be deleted (as was noted already by Jongeneel 1884: 13, 26 and Münch 1904: 169).

²⁹ As we showed above (§ 5.3.13) in a limited set of originally strong verbs formal differences still exist between 1 sing. on the one hand and *t*-less 3 sing. and 2 plur. on the other.

- (70) $\gamma^l\text{ə} - \text{ʃrub} - \text{d} \rightarrow / \gamma^l\text{əʃrubd} /$ 'scrubbed'
- ↓
- final devoicing³⁰
- ↓
- [$\gamma^l\text{əʃrupt}$]
- ↓
- t-deletion
- ↓
- [$\gamma^l\text{əʃrup}$]

- 'Pronominal'. In the Dutch standard language, the noun does not necessarily have to be lexically expressed in a constituent

- (71) $\text{NP}[\text{Det} + \text{Adj} + \text{N}]$

except when it is neuter, vid.:

- | | | |
|------|--------------------------|-----------------|
| (72) | een dikk- <i>e</i> man | 'a fat man' |
| | een dikke | 'a fat [one]' |
| | een leuk- <i>e</i> vrouw | 'a nice woman' |
| | een leuke | 'a nice [one]' |
| | een lief kind | 'a sweet child' |
| | *een lief | 'a sweet [one]' |

Here *kind*, 'child', is a neuter noun. In Limburg dialects (of the A-, the B- and the largest part of the C-type) in this latter case a -*t* is suffixed to the adjective:

- (73) $\text{NP}[\text{Det} + \text{Adj-}t + \emptyset]$
condition: N = [neuter]

so the dialect version of the latter example would be:

- | | | |
|------|-----------------|-----------------|
| (74) | ə lef kɪŋk | 'a sweet child' |
| | ə lef- <i>t</i> | 'a sweet [one]' |

These regularities hold for other adnominal words as well, e.g. possessive pronouns:

³⁰ It seems impossible to decide whether /b/ becomes [p] as a result of devoicing or because of assimilation. This question is irrelevant to the issue of t-deletion.

- (75) st.l. 'mijn kind' 'my child'
 *het mijn', 'the my'
 but 'het mijn-e' 'the mine'
- dialect mi kɪnk 'my child'
 ət min-t 'the mine'

These facts are reminiscent of German, where adjectives have some form of inflection. In a paper on percolation of grammatical features, Muysken (1983: 208) pointed out that in German borrowed 'colour adjectives' such as 'orange' and 'lilac', 'violet', are the only category of words in which inflection is optional - as long as the noun is present. Cf. (76).

- (76) ein lilanes Kleid 'a violet dress'
 ein lila Kleid 'a violet dress'
 ein Lilanes 'a violet [one]'
 *ein Lila 'a violet [one]'

With respect to this specific part of the grammar of the dialect, Hinskens & Muysken (1986)

- demonstrated that the *-t* is not related to the German suffix *-əs* (in certain dialects *-ət*), since the two suffixes have different distributions;
- described the geographical spread of the feature;
- explained two exceptional types, and
- offered the following theoretical explanation: *-t* can best be considered to be a pronominal affix which marks [neuter] and functions as the head of a nounless group; as such it identifies a morphologically caseless NP as an argument.

That this *-t* serves as the syntactic head is also clear from the fact that it can appear only once in a nounless NP:

- (77) ə lef kɪnk 'a sweet child'
 ə lef-t 'a sweet [one]'
 *ə γ¹ans-t lef-t 'a very-INFL sweet [one]'
 ə γ¹ans lef-t 'a very sweet [one]'

The argument is not far-fetched, since in colloquial present-day Dutch certain intensifying adverbs are commonly inflected, agreeing with the adjective, e.g.

- (77') een heel hog-e boom ~
 een hel-e hog-e boom 'a very(-INFL) high tree'

That the *-t* in (73) and (74) serves as the syntactic head is also evident from the fact that it does not occur if the noun is present:

- (78) *ə lef-t kɪŋk 'a sweet child'
 *ə [æ¹n-t hu:z 'a beautiful house'

If it follows an obstruent, this 'pronominal' -t can be deleted as well, vid.:

- (79) ə left / ə lef 'a sweet [one]'

With respect to the *lexical* /t/, it should be noted that t-deletion seems to erase the final segment in diminutives before the suffix is added:

- (80a) /bi:ʔst/ 'beast' - bi:ʔs-kə DIM
 /kɪst/ 'case, chest' - kɪs-kə DIM
 /kaft/ 'book cover' - kef-kə DIM

Had the /t/ been present, the diminutive suffix would have been -'jə' (see § 5.3.5 above). On the other hand, /t/ is not absent at the point of the grammar where the plural morpheme is attached:

- (80b) /bi:ʔst/ → [bi:əs] - bi:ʔst-əR PLUR
 /kɪst/ → [kɪs] - kɪst-ə PLUR
 /kaft/ → [kaf] - kaft-ə PLUR³¹

So whereas diminutive formation seems to suggest that t-deletion is lexicalized, pluralization provides arguments against lexicalization, as does derivation:

- (80c) bi:ʔst-əRɪ 'bestial behaviour, bestiality'
 bi:ʔst-ɪʃ 'bestly, bestial'³²

One might stipulate the extrinsic ordering: 1. pluralization 2. t-deletion 3. diminutivization. However, forms like

- (80d) bi:əs-kə-s 'beast - DIM - PLUR'
 kɪs-kə-s 'case - DIM - PLUR'
 kef-kə-s 'book cover - DIM - PLUR'

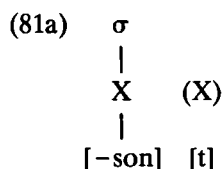
prove that diminutivization must be allowed to apply before pluralization. One solution to this seeming ordering problem might be the assumption that diminutiviza-

³¹ Certain Anglo-American dialects, and particularly Black English Vernacular, appear to be t-less even at this level, witness the fact that the BEV correspondents of RP 'test - tests' are 'tes - tessɪz' etc. Cf. Labov 1972a: 216 and the references in Edgar Radtke 1987: 1499.

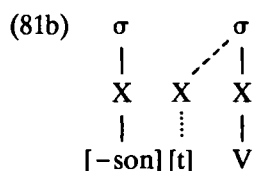
³² Both forms in KKD 1987: 59. Judging from Roberge 1985: 206-207, the latter regularities also occur in Afrikaans, a language of Dutch origin.

tion takes account of the internal structure of the last syllable of the simplex (cf. Trommelen 1984 on standard Dutch diminutivization), whereas pluralization and inflection (66a, b) are sensitive to the final segment. This solution is not parsimonious, since it seems to imply that for every single morphological procedure one would have to establish how it behaves in this respect. However, an appealing aspect of this solution is that it amounts to treating /t/ as an adjunct or extra-syllabic. After all, a /t/ following another obstruent constitutes a violation of the universal tendencies regarding syllable structure.

A more sophisticated solution which takes account of the latter fact is the assumption that /t/ is part of the lexical representation, although its phonetic tier is not associated to a skeletal slot. In other words, this /t/ is not assigned a timing slot, and is therefore a so-called 'untimed' or 'floating' segment:



In case a vowel follows word-internally, affiliation always takes place as a result of resyllabification of the stop:



which is no surprise, since [t] is no longer word-final. If the vowel is part of the following word, t-affiliation is variable:

- (82)
- | | | |
|----------|---------|-------------------|
| kɪst-ə | *kɪs-ə | 'cases' |
| kɪst##ɪn | kɪs##ɪn | 'into (the) case' |

Representing word-final [t] after an obstruent as a floating segment comes down to interpreting t-deletion as an instance of cluster simplification determined by syllable structure, a natural phenomenon. Additional support for this interpretation is formed by the behaviour of *morphemic* -t's (or, rather, allomorphic, for underlyingly they are /d/'s) in adjectivalized past participles. As has already been shown, /d/ surfaces when an inflectional shwa follows. As a floating segment, this [t] is comparable to French liaison consonants.

Strictly speaking, in this scenario the designation t-deletion is not correct and should be changed into something like 'non-affiliation of untimed [t]'. Whatever label

we attach to it, the rule must be allowed to operate at several levels of derivation (§§ 2.3.1, 2.3.2 above).

An alternative, though similar solution to the dilemma posed by data such as those in (80a-d) above is to analyse the stop as prosodically incorporated (hence not floating) and to regard its deletion as delinking due to sonority requirements (cf. Guy 1991). A frequency of t-deletion before a pause of less than 100/100 would in principle point into this direction.

For a subset of relevant lexical (type 'lichr') and morphemic (types 'lach-r' and 'ge-lach-r') contexts, t-deletion after obstruents may seem to bleed the A-rule of dorsal fricative deletion (cf. Hagen 1981: 157). Closer examination of the facts makes plain that dorsal fricative deletion and t-deletion are ordered according to the Elsewhere Condition (Kiparsky 1973). This condition contends that if a given form satisfies the structural description of two different rules, then the more specific rule applies, blocking the more general one, which operates elsewhere. If dialect levelling is structurally gradual, as our second hypothesis predicts, then for the forms at hand we expect the distribution:

- | | | | |
|------|--------------------------|----------------------|------|
| (83) | Older dialect speakers | /li: ^ə t/ | etc. |
| | Younger dialect speakers | /liç/ | etc. |

In this scenario, in this specific connection geographical graduality and linguistic graduality would coincide.

Three methodological remarks are still to be made. First, our informants' application of the t-deletion rule was not analysed before #(#) {t / d}.

Second, just like n-deletion (§ 5.3.7), t-deletion occurs word-finally, so it can also be observed in the first part of compounds (cf. Booij 1977), as in:

- | | | |
|------|------------|-------------|
| (84) | post-zegel | 'stamp' |
| | mest-hoop | 'dung-hill' |

Nevertheless we did not study rule application in this environment. There were two reasons for this decision: firstly, the 'real life frequency' (Lambert & Moore 1986: 180) of this specific word-type is relatively low, so it does not obey our fourth criterion for selection (§ 4.2.1). In Van Hout's (1989: 178-81) corpus of spontaneous speech collected in the city of Nijmegen the number of occurrences of compounds of this specific type is relatively low. Secondly, in the Ubach over Worms dialect varieties, t-deletion in this environment is almost categorical (cf. Booij 1977: 20-21 with respect to the Dutch standard language); variation, let alone levelling of the feature can hardly be expected to reach statistically interesting levels in this environment.

A third, equally important, restriction is the fact that the investigation did not take into account the realization or deletion of [t]'s after 'intrusion' obstruents in structures like

- (85a) $k\epsilon^1:m-t$ 'comes' 3 sing.
 phonologically $/k\epsilon^1:mt/$

where the 'intrusive' segment is an 'intermediary' between the adjacent non-continuant but 'heterorganic' /m/ and /t/. From /m/ the place feature [labial] spreads rightward, while at the same time from /t/ the manner feature for plosion spreads leftward, so that [p] results:

- (85b) $[k\epsilon^1:mpt]$

This realization is attested especially in t-deleting dialects in the centre of the Dutch language area (Goeman 1976: 19). From a phonetic point of view one might expect t-deletion in this connection, and t-deletion indeed occurs in such contexts. In short, this phonetic type of intrusion may feed t-deletion.

In case the [t] is not realized in structures such as (85b), it can be maintained that the [p] is the product of the place assimilation of /t/ to the preceding nasal. Because the phonological nature of this phenomenon is unclear and it is so rare and unpredictable, even in spontaneous speech, the study of t-deletion has been limited to instances where the preceding obstruent is part of the lexical representation. This keeps the design of our investigation as clean as possible.

5.3.15 *Sandhi voicing* - C phonology

As has been pointed out already, Dutch and German and their dialects have an automatic post-cyclic (Booij 1985; Booij & Rubach 1987: 7) rule for the devoicing of obstruents in absolute syllable-final position. The last segment of the first syllable in the equivalents of the word 'pragmatics', for example, is fricative in Dutch and plosive in German; in both languages it is voiceless:

- (86) pra [x] matiek (Dutch)
 Pra [k] matik (German)

Before word boundaries, the effect of this rule can be undone by 'sandhi voicing', a late rule for regressive voicing assimilation. Of course, sandhi voicing can also affect segments which are lexically voiceless.

As far as the Dutch standard language is concerned, the only possible source of the assimilation, i.e. the place from where [+voice] spreads, is plosives.³³ Since both the standard language and the A-, B- and C-type dialects only seldom have [g] in *anlaut* position (in the standard language it does not belong to the endogenous segment inventory), we can further delimit the right-hand environment to /b/ and /d/. So far the dialects and the standard language do not seem to differ.

With respect to sandhi voicing the dialects differ from the standard in a very salient manner, since in the dialects vowels also belong to the right-hand environment in the structural description of the rule.³⁴

$$(87) \quad [-\text{son}] \rightarrow [+voice] / ___ \#(\#) \left\{ \begin{array}{l} [-\text{son}] \\ [-\text{cont}] \\ [+voice] \\ [+syl] \\ [-\text{cons}] \end{array} \right\}$$

While there are instances of dissimilation which seem to be perceptually motivated, voice assimilation before voiced plosives in Dutch is an articulatorily motivated process: spreading of the laryngeal feature [+voice] *across* the syllable boundary has the phonetic effect of coarticulation through anticipation.

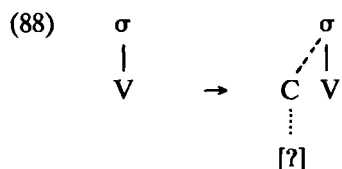
As far as voice assimilation before a vowel is concerned, the situation is slightly more complex. Van der Hulst (1984) observed that on the surface in Dutch voiced obstruents are excluded everywhere, except in initial position in the syllable ('X₁').³⁵ Goldsmith's (1990: 126) claim that "we find codas in countless languages which do not have the privilege of bearing contrastive marking for voicing (German)" therefore also applies to Dutch; after all, both languages have Final Devoicing. Moreover, a syllable which underlyingly begins with a vowel is phonetically reinterpreted so that it is realized with a glottal stop in onset position.³⁶ This rule of phonetic implementation can be formalized as follows:

³³ Cf. Trommelen & Zonneveld 1979: 102, 104-107, 131-32; Booij 1981: 151. The left-hand environment [+voice] in Booij's formulation of the rule does not apply to the dialects at stake. Articulatory investigations by Slis revealed that there are many exceptions to the rule for regressive assimilation if the second consonant is a plosive (R. van den Berg 1988: 6). See Schane 1973: 61 on voice assimilation in obstruent clusters in general.

³⁴ To be more precise, in the dialects the rule usually also applies before vowels, while in the standard language it rarely does, witness the fact that in Trommelen & Zonneveld's formalization (1979: 106) it only operates before voiced stops.

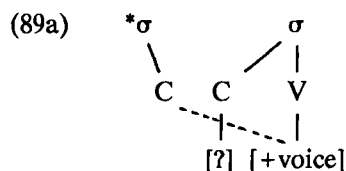
³⁵ The sole exception results from the assimilation process formalized in the first expansion of (87).

³⁶ Cf. Jongenburger & Van Heuven 1991. For more references, see § 2.4.6 under (15).

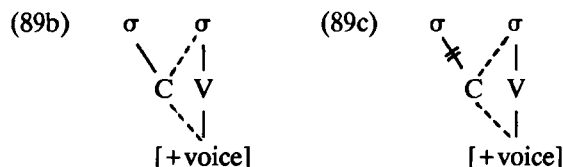


Further research is needed to answer the question whether a timing slot (C in (88)) is also introduced, apart from the glottal stop.

Given the basic principles of autosegmental phonology, it is easy to see that after glottal stop insertion regressive assimilation of [+voice] from the vowel to the final segment in the preceding syllable is blocked since it would violate the No-Crossing constraint. Cf. (89a).



Sandhi voicing before a vowel therefore requires resyllabification. Resyllabification places the final segment of the preceding syllable in the onset position, so that no default consonant [?] needs to be inserted. If this final segment is preceded by a short, [-tense] vowel, then it becomes ambisyllabic, cf. (89b). If it is preceded by a long, [+tense] vowel or another consonant, it is detached from its original syllable node, as in (89c).



So in constellations of a word-final obstruent followed by a vowel-initial word resyllabification-cum-sandhi voicing is an alternative for either resyllabification-cum-final devoicing or glottal stop insertion-cum-final devoicing. In any case, sandhi voicing before a vowel occurs *within* the syllable. In (11) to (13) in § 5.3.2 above we saw how resyllabification-cum-sandhi voicing feeds the rule of syllable-initial γ^1 -weakening.

The facts regarding sandhi voicing³⁷ seem to imply that at least in the relevant dialects of Dutch resyllabification also operates postlexically; according to Nespor & Vogel (1986: 66-67) in standard Dutch it is "impossible for syllables to group together

³⁷ Specific manifestations have been pointed out in (8) to (10) in § 5.3.2 above.

³⁸ Cf. Booij and Rubach 1987: 30-34 for a discussion of the corresponding facts from informal styles of standard Dutch.

- (94) $\gamma^1\text{ru}:\text{ə}^t$ 'big'
 vid. with an inflectional shwa $\gamma^1\text{ru}:\text{ə}^t\text{-ə}$
 $\text{'də'} \rightarrow \gamma^1\text{ry}:\text{ə}^t\text{də}$ 'bigness'
- dep 'deep'
 vid. dep-ə
 $\text{'də'} \rightarrow \text{debda}$ 'depth'

More examples can be found in e.g. Van Ginneken (1913: 174). The nominalization

- (95a) $\text{hu}:\text{ə}^{\text{ç}}$ 'high'
 $\text{'də'} \rightarrow \text{hy}:\text{ə}^{\text{ç}}\gamma^1\text{də}$ 'height'

is in use as the toponym "Oop 'en huuëgde",

- (95b) $/\text{ɔ}^1\text{pənh}y:\text{ə}^{\text{ç}}\gamma^1\text{də} / < \text{ɔ}^1\text{p} \#\#\gamma^1\text{ən} \#\#\text{hy}:\text{ə}^{\text{ç}}\gamma^1\text{-də}$
 lit. 'on the-LOCAT height'

a hilly part of the village Nieuwenhagen. Incidentally, this is the second highest point in the Netherlands.

There is another derivational procedure with 'də' plus sandhi voicing (but without umlauting) namely the adjectivalization of the past participle of weak verbs:

- (96) $\gamma^1\text{ə} - \text{stem} - [\text{t}] \rightarrow \gamma^1\text{ə} - \text{V} - \text{'də'}$

as in:

- (97) $\text{ko}:\text{ə}^{\text{ç}}\text{kə}$ 'to cook'
 $[\gamma^1\text{əkək}^t] \rightarrow \gamma^1\text{əkək}^{\text{ç}}\text{də}$
- rapə 'to pick up'
 $[\gamma^1\text{ə}^{\text{ç}}\text{rəp}^t] \rightarrow \gamma^1\text{ə}^{\text{ç}}\text{rəb}^{\text{ç}}\text{də}$

Apparently the final [t] in the past participle is the product of devoicing of underlying /d/, as was pointed out already in connection with deletion of morphemic $-t$.

In an official document written in Rimburch in 1542 two tokens can be found of the derivational procedure in (96):

- (98) "... ende sijne getuijgenis met *opgereckden* vingeren ende *uijtgestreckden* armen bij den Almachtigen Godt ende sijnen liever Heijligen gesworen"
(in Hanssen 1912: 341)

lit. ... and his testimony with stretched fingers and raised arms for
God Almighty and his dear Saints sworn

The suffix *-də* is also found in deadjectival nouns of the type:

- | | | | | |
|------|-----------------------|-------|--------------------------------------|-----------------|
| (99) | st.l. <i>gemeente</i> | dial. | ɣ ^l əmində | 'municipality' |
| | <i>gewoonte</i> | | ɣ ^l əwœ ^l n:də | 'custom, usage' |

These are derivations of a type similar to those in (94) above.

With respect to the nominalizations (represented by *hoogte*) and deadjectival nouns (as in *gemeente*), Schultink remarks that the standard language suffix *-tə* is subcategorized for a preceding adjective. It is provided with the features [+N] and [+neuter], and it functions as the head (1986: 107).

In view of the existence of the suffix *-də*, with regressive voicing assimilation, in
- the preterite of weak verbs, at least in the C-type dialects - cf. § 5.3.9 above (the standard language showing progressive assimilation if the stem has an underlyingly voiceless final segment), and

- the derivational procedures described in this subsection,

one might surmise that we are mainly dealing with a lexical difference between most Limburg dialects on the one hand and the standard language on the other. Whereas in the C-type Limburg dialects *-də* is the generic form of these suffixes (including the circumfix *gə-...-d(ə)*), the standard language has two different forms. The derivational suffix is *-tə*. If **ide* (and later **ede*) is the historical root of the present-day standard suffix *-tə*, its form can be explained by lexicalization of what once was merely a phonetic variant, respectively an allomorph following roots ending in a voiceless obstruent. The standard preterite suffix, on the other hand, is *-də*. The suffix-initial stop assimilates its voice specification to the (underlying) specification of an immediately preceding, stem-final obstruent.

5.3.17 *Absence inflectional shwa* - C morphophonology

Present-day standard Dutch has a gender system that distinguishes between *'de'* and *'het'* nouns. The group of nouns that take *'de'* as the definite article consists of former masculine and feminine nouns, whereas all *'het'* nouns are neuter. Limburg dialect morphology retains the original three-gender system. One of the ways in which gender is expressed grammatically is in adnominal elements.

Adjectives and indefinite, demonstrative and possessive pronouns in adnominal position always receive a shwa suffix, except when the noun they are related to is a singular neuter. This shwa, however, is sometimes absent:

- (100) st.l. *een mooi-e vrouw*
 **een mooi vrouw*
- dial. ?ɪŋ ʃæ⁺n-ə vr̥ou
 ɪŋ ʃæ⁺n vr̥ou
 ‘a beautiful woman’
- liev-e mensen*
 **lief mensen*
- ?lev-ə ly
lef ly
 ‘sweet people’

Study of relevant data from dialect questionnaires (mainly RND - cf. § 4.2.2), reported on in Hinskens & Muysken (1986), revealed that

1. The geographical distribution of the phenomenon is relatively large: it can be found in all Limburg dialects studied here and in a few eastern Brabant dialects as well;⁴⁰
2. The grammatical distribution of the phenomenon is limited to monomorphemic adnominal elements (not counting the shwa, of course) in sing. fem. and plur. noun phrases;
3. The phenomenon is conditioned phonologically: if the adnominal word underlyingly ends in a voiced segment, the shwa suffix may be deleted:

- (101) /ə/ → Ø / [+voice] ____]_{adnom.}
 grammat. conditions: adnom. = monomorphemic
 N = {sing. fem., plur.}

It is also conceivable that the inflectional shwa is not affiliated, or that a zero-suffix is attached, for that matter. In those cases there would be no deletion rule, but essentially the analysis would be the same.

The underlyingly voiced segment always surfaces as such when the inflectional shwa is present, so our analysis satisfies all relevant naturalness conditions. This digression is only relevant to obstruents, however, because of the neutralizing effect of the automatic rule of final devoicing; all other segments are underspecified for [+voice];

4. The rule is exceptionless but not obligatory. There are four types of apparent exceptions. Three of these⁴¹ turn out not to be monomorphemic, and the last set of exceptions consists of adjectives with final [ŋk] in the predicative form, as e.g.

⁴⁰ Including those spoken in Belgium - cf. Taeldeman 1978: 221 ff., which offers much more than just a dialect-geographical account of the phenomenon. In the *Rede*, written in the Aachen dialect of around the year 1750 (cf. § 4.2.2 above) at least eight shwa-less inflected forms are attested.

⁴¹ These will not be dwelled on here. See Hinsken & Muysken 1986: 16-19.

(102)	ro ⁺ ŋ:k	st.l. <i>rond</i>	'round'
	blŋ:k	<i>blind</i>	'blind'
	jo ⁺ ŋ:k	<i>jong</i>	'young'

The process which led to this cross-dialectal variation has been lexicalized. Geographically it is limited to the A- and B-type Limburg dialects, and more generally to the 'Mittelfränkisch' dialects of High-German to which the latter belong in certain respects.⁴² If this [ŋk] is treated as /ŋg/, which it is both historically and section underlyingly, derivation does not constitute many problems.⁴³

(103) input: /ŋg/

	sing.masc.	sing.femin. plur.	sing. neuter
suffixing inflect. -shwa	+	+	-
	ŋg-ə	ŋg-ə	
g-deletion before -shwa	+	+	-
	ŋ-ə	ŋ-ə	
deletion inflect. -shwa	-	+	-
		ŋ	
final devoic.	-	-	+
output	[ŋə]	[ŋ]	[ŋk]

⁴² Older accounts of this dialect feature, which is commonly referred to as 'gutturalization', in e.g. Bach 1934: 91-92 and Roukens 1947: 41. For a simplified account of the place of these dialects in a family tree, see Fig. 3.1 in § 3.3.2 above.

⁴³ On /ŋg/ see e.g. Kiparsky 1972: 209, Klocke 1982: 116-28 and Wiese 1986: 10. Trommelen 1984: 158 ff. is critical of /ŋg/ as the underlying form of [ŋ] and [ŋk]. The derivation is identical for the group of Limburg dialects that have palatal /pt/ in the lexical input forms instead of /ŋg/, the only difference being that these dialects have a rule of *ɸ*-deletion instead of *g*-deletion; the scope of both rules is identical.

The only words which are categorically shwa-less when preceding a feminine or plural head are the possessive pronouns for 1, 2 and 3 sing. In the A- and B-type Limburg dialects they all end in [ŋ]. We will not dwell upon this issue.

In connection with 2. and 3. above, we should add the following. In a recent paper, Wetzels (1993: §§ 1, 2), replying to certain theoretical claims made by Hayes and partly elaborating on Hinsken & Muysken 1986, makes clear that phonologically our description of the rule is not sufficiently sophisticated if applied to the East-Limburg dialect of Schinnen, near Sittard. The version of the rule Wetzels proposes differs from ours in two respects:

- (a) like ours, it applies to all words ending in an underlyingly voiced segment. But with respect to obstruents only fricatives after a long vowel or a diphthong count;⁴⁴
- (b) it applies to monosyllabic words, and to polysyllabic ones only when they end in a shwa followed by an approximant.

It may be necessary to trade in our second constraint to Wetzels' constraint (b). In this respect, it is interesting, though of course not decisive, that the number of syllables an adjective consists of seems to play a crucial role in the retention of the inflectional shwa in Afrikaans (Roberge 1985: 194).

Wetzels adduces a few monomorphemic words ending in an underlyingly voiced obstruent that, also in the Ubach over Worms dialects, never occur shwa-lessly in the relevant syntagm. Despite these counterexamples to the segmental part of our version of the rule, we are not convinced of the adequacy of Wetzels' constraint (a). The reason is that of the set of words that are excluded by his formalization of this constraint, the subset of (monosyllabic) words that end in a long vowel or a diphthong followed by an underlyingly voiced stop, is empty. Hence, lacking available data, we consider this part of Wetzels' claim as unproven.

Moreover, in the *Rede* (Aachen dialect, around 1750; lines 153, 155) we found the NPs 'en fremd sproch' and 'en fremd Sprach', 'a foreign language', 'Sprach(e)' being grammatically feminine. Here we have an adjective ending in a /d/ which is not preceded by VV; it nevertheless surfaces shwa-lessly.

It goes without saying that

- words which are excluded by our version of the rule ((101) above), as well as
- words that never surface shwa-lessly (for some other reason, which we have not been able to establish yet)

did not occur in our elicitation tests. Neither did words that are excluded by Wetzels' constraint that we paraphrased as (b) above.

⁴⁴ Cf. the second expansion of the rule proposed by Taeldeman 1978: 222.

5.3.18 *Noun pluralization - C morphology*

Pluralization in Limburg dialects is incomparably more complex than in the Dutch standard language, because the number of available operations is much larger. This is partly a consequence of the fact that Limburg dialects (with the exception of those spoken in an extreme northern and northwestern part of the Dutch province - Notten 1974: 41-42, 53) are pitch accent languages.

Despite the structural distance between the dialects and the standard language in this area of morphology, comprehensive systematic descriptions of the Limburg system do not exist as yet, to our knowledge. The one to be presented here is based on the Ubach over Worms varieties, but can be generalized to other varieties as well.

To begin with, we made a rough and superficial distinction between 'external' (suffixation) and 'internal' morphology. Both types and their specific operations can occur simultaneously. Moreover, at the same time, within the main type 'internal' alteration, several operations can take place simultaneously. This is why pluralization seems so chaotic; yet, the chaos appears to be highly structured.

Four types of suffixation can be distinguished: \emptyset , -'ə', -'ər' and -'s'.

Internal morphology involves modifications of the singular root. First, a group of nouns does not show internal alteration in pluralization. In the remaining nouns, two loci of alteration can be distinguished: the post-vowel consonant clusters (*C*) and the nucleus (abbreviated as *N*, which may consist of either vowel or diphthong; or vowel or diphthong and a following [+son] consonant). There are no more than two final clusters that undergo alteration: /ŋk/ becomes /ŋ/, and /mp/ becomes /m/. As for the nucleus, alteration is either segmental or supra-segmental. The segmental operation that may occur in the nucleus consists of the vocalic change

(104) sing. [+back] → plur. [-back],

i.e. umlauting. The suprasegmental operation consists of a change in the tone contour. Since there are two contours available in these dialects, namely HLH and HL, two alterations are conceivable:

(105) sing. HLH → plur. HL and
 sing. HL → plur. HLH

The first of these occurs independently in pluralization morphology, and the second as an effect of vowel lengthening. Vowel lengthening may in turn result from attaching a schwa-initial suffix and subsequent resyllabification. Hence sing. HL → plur. HLH is conditioned phonologically rather than morphologically.

Both tone contour and umlaut are exploited as defective morphemes, of tone and harmony respectively. For such non-concatenative or associative operations a separate morpheme level autosegment must be assumed to exist (Van der Hulst & Smith 1985: 10, 14, 22, 24).

Putting these operations together, the following grid evolves. For each of the several combinations of operations (cells in the grid) that are represented in the Ubach over Worms dialects, one example is given. For all examples the sing. and plur. forms of the dialect variant and the English sing. equivalent are provided.

	∅	-ə	-əR	-s
no alteration	pe:ʔt (sing. & plur.) 'horse'	viŋəR viŋəRə 'finger'	dak dakəR 'roof'	kRO-ʔ kRO-ʔs 'crow'
N: umlauting (a)	apəl epəl 'apple'		lo-ʔk lø-ʔkəR 'hole'	
N: HLH → HL (b)	ě·Rʔm èRʔm 'arm'	prɪ:ʔs prɪ:zə 'price'	ě:ɪ è·fəR 'egg'	kě:ʔl kè-ʔls 'chap'
N: lengthening (c)		Rù-ʔs Rũ:ʔzə 'rose'		
C: /ŋk/ → /ŋ/ (d)			dɪŋ:k dɪŋ:əR 'thing'	
C: /mp/ → /m/ (e)				
	(a,b) mũ:s mỳ:s 'mouse' (a,b,d) hɔ̃ [⊥] ŋ:k hœ [⊥] ŋ 'dog' (a,b,e) kãm:p kêm 'comb' (b,d) Rɪ ŋ:k Rɪŋ 'ring'			

Figure 5.1 An overview of the surface effects of the operations for noun pluralization - with examples from the Ubach over Worms dialects

As will be clear, by making use of the existing operations pluralization could have been much more complicated, since half of the possible combinations *within* the grid are not exploited. Yet, within the category 'no suffix' combinations of several internal operations can be found (found in the 'appendix' to the grid). The system is not symmetrical on the diagonal axis, however, since the type with no internal alteration crossed with a combination of several suffixes is not exploited.

Not all internal operations function independently; lengthening and the subsequent change in tone contour (c), /ŋk/ → /ŋ/⁴⁵ (d), and /mp/ → /m/ (e) only occur together with other operation(s).

The great majority of the nouns that mark the plural by umlaut do not take a suffix. In the course of time most of them have lost the original ending which marked the number opposition, through various phonological (e.g. apocope) and/or morphological developments (e.g. the collapse of the case system).⁴⁶

Just as is generally the case in High- and Low-German dialects (Dingeldein 1983: 1198, 1200), words that have an '-ər' plural marker are predominantly neuter. Standard Dutch has maintained the originally plural mark '-ər' (Schönfeld & Van Loey 1970: 126-27) in a subgroup of (again only neuter) nouns as augmentative element in a readjustment rule for inflection, derivation and composition:

(106)	'kind'		'child'
	'kinderen'	kind-ər-ə	'children'
	'kinderachtig'		'childish'
	'kinderkamer'		'nursery'
			(cf. Booij 1981: 111)

The suffix '-s' occurs most usually in nouns ending in a vowel, usually shwa, including diminutives.

There are nouns which seem to be *hors catégories*, but closer examination reveals that they undergo a slight phonological alteration either in their singular or in their plural form. These phonological alterations are, for the singular:

(107a)	t-deletion, e.g.	
	dens	- denstə
	liç	- liçtər
		'service(s)'
		'light(s)'

⁴⁵ In nouns of this make-up, the singular form derives from underlying final /ŋg/ through Final Devoicing and the plural form through g-deletion (cf. footnote 43 above).

⁴⁶ Cf. Schönfeld & Van Loey 1970: 119; Dingeldein 1983: 1199.

final devoicing, e.g.

Rœ ¹ k	-	Rœ ¹ gə	'back(s)'
kɔ:f	-	kɔ:vəR	'calf - calves'

Here the singular forms undergo productive phonological rules; the alterations are therefore not lexically specified. Phonological alterations in the plural form are:

(107b) intervocalic *d*-weakening, e.g.

bRU:ʔt	-	bRUWƏR	'bread(s)'
kle˘t	-	klɪ:jəR	'dress(es), clothes'

intervocalic *d*-deletion, an extreme form of weakening of course:

blət	-	blə˘R	'leaf - leaves'
rat	-	RA˘R	'wheel(s)'

A small group of nouns is really *hors catégories*, e.g.

(108)	be:	-	bɪŋ	'leg(s)'
	hɔ ¹ n	-	hɔ ¹ ndəR	'chicken(s)'

Still, these nouns can be shown to be regular etymologically. These forms were not part of our investigation.

5.3.19 Oblique form of certain pronouns - C morphosyntax

Despite some cases of syncretism (one of which is still spreading), the Dutch standard language can be said to have different subject and object forms for the personal pronouns, and so do the A-, B- and C-type Limburg dialects.

Unlike the standard language, which nowadays marks the subject / object distinction only in personal pronouns, the dialects moreover formally distinguish nominative and oblique case in the demonstrative and relative pronouns ('that', 'who'), and the interrogative pronoun 'who'. No further distinction is made between direct and indirect objects.

In the Dutch standard language as well as in dialects of Dutch the demonstrative pronoun can be used independently. Unlike the standard language, Limburg dialects have a three-gender system which is marked in the sing. demonstrative pronoun. So the combination case x gender results in six (sing.) plus two (plur.), i.e. eight places in the paradigm:

(109)	<i>dialect</i>		<i>standard l. (orthogr.)</i>
	nomin.	obl.	nomin. = obl.
sing.			
masc.	de- ^a	dem	die
femin.	di	(dœr)	die
neuter	dat	(dem)	dat
plur.	di	(dœ:n)	die

If used adnominally, the demonstrative pronoun is not morphologically case-marked, i.e. always takes on the nominative form.

The relative pronoun is formally identical to the demonstrative, but, except in the sing. masc., is not marked for case (which is why in the above scheme three of the four oblique forms appear between brackets). For this study, only the use of the sing. masc. has been investigated for both the demonstrative and the relative pronoun.

The interrogative pronoun 'who'⁴⁷ behaves the same as the demonstrative with respect to case, but gender and number are not marked:

(110)	<i>dialect</i>		<i>standard l.</i>
	nomin.	obl.	nomin. = obl.
sing. = plur.			
	we- ^a	wem	wie

Throughout the Limburg dialect area, there is a great deal of variation in the case-marking system in these pronouns. In the Sittard dialect the difference between nominative and oblique forms still exists in all pronouns. Generally, however, case-marking in the three pronouns appears to be under heavy pressure. In many representatives of the large East-Limburg group (the C-type), it is either in the process of being levelled out (as e.g. in the dialects in and around Venray, in the north of the Limburg dialect area - Rob Vousten, personal communication) or has already been levelled out, albeit usually only partly. According to Houben (1905: 62-63) the dialect of the city of Maastricht already had only separate case forms in the demonstrative some 85 years ago but not in the relative or interrogative pronouns. Usually the original nominative form remains⁴⁸, i.e. the one that most closely resembles the standard form. This is, however, by no means the absolute rule: the dialect of Roermond and the ones spoken in and around Weert have lost case differences, but for the interrogative pronoun both dialects retained the original oblique, rather than the nominative, form (Kats 1985: 61, 323; J. van den Berg et al. 1983: H3 3, 7).

⁴⁷ Unlike the Limburg dialects, the Dutch standard language also uses *wie* as a relative pronoun, although not as a subject or direct object (cf. ANS 1984: 247).

⁴⁸ In the historical development of Dutch both in (demonstr.) *die* and *wie* the nominative case exercised a strong formal influence upon the other case forms, until they ceased to exist (Schönfeld & Van Loey 1970: 146-47).

In short, until relatively recently, case-marking in demonstrative, relative and interrogative pronouns could be characterized as a feature of the A-, B- and C-dialects, but at present it is apparently retreating spatially at a high speed.

As will be clear, the case form of these pronouns is originally determined by their syntactic function rather than position. At least in the dialects spoken in Ubach over Worms, variation related to the placement in the sentence may foreshadow the levelling out of this dialect feature:

- (111a) ɿɕ han dem ɣ^ləzi:^ə
 *ɿɕ han de:^ə ɣ^ləzi:^ə
 I have DEM-OBJ seen 'I have seen him'
- (b) dem han ɿɕ ɣ^ləzi:^ə
 ʔde:^ə han ɿɕ ɣ^ləzi:^ə
 TOPIC-DEM-OBJ have I seen

Although the use of the subject form in object function would originally have been considered ill-formed in both patterns, it is far from uncommon in the latter instance, where it occupies the 'natural' subject position. Actually, in her response to item 21 of the written D.C.-questionnaire (cf. § 4.2.2 above) # 3 from 1934, the Waubach informant used the subject form of the interrogative pronoun in a sentence of the type in (111b) 'Whom has he told that new story?'; the Rimbürg informant used the oblique form.

5.3.20 Expletive element - C morphosyntax

In the Dutch standard language the adverbial pronoun⁴⁹ *er* has four different functions:

- (112) (a) locative Hij is *er*
 ‘He is *there/here*’

 (b) quantitative or partitive Ik heb *er* twee
 ‘I have got two *of them*’
where the antecedent of *er* is known

⁴⁹ Categorization, typology and syntactic analysis as in Bennis 1986.

- (c) 'pronominal adverb' (Bennis: 'prepositional *er*')

Heb je *erover* nagedacht?

'Did you think about *it*'

/ 'Did you think *it* over?'

In this case, *er* and the preposition with which it is combined can be separated:

Ik heb *er* nog niet *over* nagedacht

'I have not yet thought about *it*'

- (d) expletive or repletive or existential:

Er zijn vier soorten 'er'

'*There* are four kinds [of] 'er''

and, with *er* in another syntactic position:

Wat is *er* aan de hand?

'What is REPL the matter?'

dat *er* iets aan de hand is

'that REPL something is the matter'

In ANS, the reference grammar of present-day Dutch, the last type of *er* is called a 'place subject'. "If there is still another subject in the sentence, that one is called number subject, since it agrees with the finite verb in number" (ANS 1984: 395-96, 816-18 - my translation, FH). In standard Dutch, *het* is used as a 'place subject' if the real subject is an embedded sentence, as in:

- (113) *Het* is duidelijk dat het onzin is

It is clear that it nonsense is

'... that it is nonsense'

(Weerman 1988: 298-99)

In all other cases, the standard language has *er*. Invariably, this *er* looks as if it were something of a cliticized form of *daar*, 'there', witness the fact that it can always be replaced by /d^ər/, which functions as the reduced colloquial variant of *daar*. The full form *daar* can however not always replace *er*. In constructions in which one single *er* fulfils more than one function, a phonological deletion rule has erased all other *er*'s - see Bennis (1986: 248).

The dialects at issue differ from the standard language in that they have several different forms, depending not only on the function but also on the syntactic constellation:

- | | | | |
|-----------|-------------------|--------------------|-----------------------------------|
| (114) (a) | locative | /do ^ə / | |
| (b) | quantitative | /əs/ | |
| (c) | pronominal adverb | unseparated | /dər/ + PREP |
| | | separated | /do ^ə / ... x ... PREP |
| (d) | expletive | first position | /ət/ |
| | | other positions | — |

So in connection with the dialect equivalents of expletive *er*, a distinction should be made between the first position and other syntactic positions. Two examples from our recorded speech material are the following:

(115) first position

dial. *ət* zot ɪŋ mʊ:s ɔ^l:ŋə^R də kas
 stand.l. *er* zat 'n muis onder de kast
 REPL sat a mouse under the cupboard
 'there was

other position

dial. di zɪ n:t pas, di zɪ n:t nɔx nɪt zu ɣ^lek laŋ, wa
 stand.l. die zijn *er* pas, die zijn *er* nog niet zo gek lang, hè
 they are REPL just, they are REPL not yet so very long, are they
 'they have not existed for a very long time yet, right?'

Irrespective of the type of construction⁵⁰, in initial syntactic position /ət/ occurs, in any other position nothing at all. In all possible construction types, /ət/ occupies the first position if the construction must be marked as a declarative main sentence without topicalization. So one cannot speak of two allomorphs /ət/ and *e* or *Ø*. In this respect the dialects conform to the German type, which only has an expletive element in the first position, as did older phases of Dutch, according to Winkler (1874: 38-39), who cites evidence from six Middle Dutch poems.

De Schutter (1989) is a dialect-geographical study of the expletive element in the Dutch language area. It is based on two large-scale surveys: Willems from around 1886 and RND from circa 1945-50 (cf. § 4.2.2 above). The study suffers from all the shortcomings that are typical of (though by no means inherent to) dialect geography, as it is based on data that are defective in at least three respects:

⁵⁰ In declarative active and passive sentences as well as in constructions with an unaccusative verb, expletive *er* can occupy both positions, in 'yes/no'- and 'wh'-interrogative sentences it can, of course, only occupy non-initial positions, see Hinskens 1989.

1. socially: for each place one or very few informants were consulted - usually only representatives of the higher socio-economic layers, often persons with a relatively high educational background;
2. geographically: the network of places is not always sufficiently dense to allow generalized statements regarding (changes in) the geographical distribution of the several variants;
3. linguistically: the sentences which served as stimuli (four in Willems' questionnaire, one in the RND) only concern the expletive element in initial position.

The author hardly pays any explicit attention to any of these limitations. Therefore it is difficult to estimate the empirical value of his conclusion that in the Limburg dialects which are central in our study a century ago /ət/ was already losing ground and has since lost about half of its territory (De Schutter 1989: 90).

Just like German and the present-day Dutch standard language, Limburg dialects are V-second languages. In the dialect, just as in German and standard Dutch, constructions with an expletive element meet the requirement that "in V-second languages the first position of the sentence must be filled (in declarative sentences)". After all, "COMP governs the topic position, which must therefore be filled (or bound)", cf. Koster (1987: 266). Unlike Dutch expletive *er*, which can be characterized as a PP, but just like German *es*, dialectal /ət/ is an NP.⁵¹ Unlike Dutch expletive *er*, but just like German *es*, dialect /ət/ "is a real dummy that fills the obligatory first position of the sentence. In other contexts it must be dropped" (Koster 1987: 261-62).

⁵¹ Cf. Bennis 1986: 228 for the Dutch, and 308-12 for the German expletive element.

Part III
Findings. The broader approach

Chapter 6

Quantitative analyses for each single linguistic variable

6.1 Introduction

In this chapter and the next the findings for the speech material obtained in the elicitation sessions of our investigation will be presented. The majority of these analyses had a quantitative character. In chapter 7 attention will be focused on the results from analyses which are not confined to the use or non-use of separate dialect features.

In the present chapter, after having introduced the main methodological and statistical aspects of the analyses (section 6.2), we will consider the findings regarding the levelling of each of the twenty-one dialect features that were presented in Ch. 5. In section 6.4 we will point out some of the general patterns and trends in the corpus of elicited Rimbürg dialect use which our analyses made visible. In this section the relevant sociolinguistic hypotheses will also be evaluated.

6.2. Technical aspects

To trace instances of dialect levelling, we broke down the mean sample frequency of use of each dialect feature by age group, in order to uncover any apparent time changes in their use. Of course, we were mainly interested in apparent time changes that indicate levelling. Then we tried to relate dialect levelling to linguistic dimensions.

Before we look at the results (in section 6.3), we will explain how they were obtained from the data. In this technical introduction, we will describe how we proceeded to detect apparent time manifestations of the levelling of dialect features. § 6.2.1 deals with the approach adopted in identifying levelling as such, and § 6.2.2 describes our analysis of the relationship between levelling and certain linguistic dimensions. Although the exposition in this section may appear somewhat dry, it contains an account of the most important steps in our approach to the elicited data.

6.2.1 Tracing apparent time changes in the use of the dialect features

To test the hypotheses derived from our sociolinguistic model, four questions served as guidelines:

1. is dialect use stable or does it change?
2. if it changes, does dialect levelling occur?

3. if levelling occurs, where? and
4. what is it related to?

To answer the first two questions, the frequency of use of each dialect feature is to be related to the age group of the speakers. When it does not appear to be stable, does a significant age group effect occur? If so, can it be interpreted as dialect levelling?

Question three concerns the specific dialect features, linguistic components and dialect-geographical sets of features. The dimensions that dialect levelling is to be related to (the fourth question) are the linguistic and extralinguistic independent variables. The linguistic dimensions are for the most part specific to each separate LV. Apart from the age group of the speakers, the extralinguistic parameters that were systematically varied in the design of our investigation are the areal spread of the dialect features and the interactional situation. As was already said, the interactional situation was not varied in the elicitation sessions; what is more, the elicited dialect use is non-interactional. Consequently, hypothesis III ("the long-term process of dialect levelling is foreshadowed in accommodation in dialect use") cannot be tested on the basis of the elicited data. For these data, answers to the fourth question concern the statistical interaction effects between apparent time and any of the parameters just mentioned, except for 'interactional situation'.

In practice, our approach consists of a restriction to instances where dialect use shows statistically significant effects of the speaker variable 'age group' (which provides an answer to question 1). We will only present a significant age group effect on the overall use of a given dialect feature which can be interpreted as an instance of dialect levelling (answering question 2). As may be clear by now, dialect use is operationalized as the use of the selected dialect features (answer to question 3), which have been ordered according to their linguistic components, among other things. Significant apparent time levelling in the use of the dialect features is finally (answering question 4) related to their relative geographical spread as well as to linguistic dimensions. The procedures applied in the latter connection will be described in the following subsection, 6.2.2.

The statistical analyses applied to answer the questions regarding dialect levelling as far as they can be answered on the basis of the elicited data have a bivariate character. The use of the twenty-one dialect features, both as such and in the various conditions defined by the linguistic dimensions, was related to the age group of the speakers through one-way analyses of variance. The results of the analyses are presented in tables that contain

- the number of speakers (per age group) who produced valid data;
- the mean indexes (\bar{X}) for the relative use of the dialect features, which range between 0 and 100, for each separate age group and for the entire sample;
- the standard deviation (s) for each age group and for the total sample;
- the F ratio, which represents the ratio variance between / variance within age groups;
- the number of degrees of freedom between and within age groups, respectively.

tures'. Establishing the frequency of use of a given dialect feature in the several conditions grouped around a certain linguistic dimension was considered as repeated measurement. These supplementary statistical analyses made it possible to establish whether or not there is an interaction between the relevant linguistic dimension and age group. This served as the actual test of the significance of the linguistic dimension(s) concerned to the apparent time change in the use of a given dialect feature.

For each LV the relevant tables contain results from both types of analysis:

1. the *linguistic condition(s)* in which the use of the dialect feature was found to show a significant age group effect, along with the main outcomes (F ratio, df, p and %var);
2. the answer to the question whether ('+') or not ('-') there is a significant interaction between age group and the *linguistic dimension(s)* underlying the condition(s). The information obtained by the second type of analysis therefore indicates whether or not there are significantly different age group patterns in the use of the dialect feature in the several conditions involved. When this is the case, the main outcomes (F ratio, df, p) are provided in the text.

There are two cases in which there appears to be a significant interaction between age group and a certain linguistic dimension but no significant age group effect on the use of the dialect feature in any of the conditions involved. These cases will also be indicated in the text.

6.3 Findings

Table 6.1 contains the mean frequency of the use and the standard deviation in the use of each of the 21 dialect features in our sample of speakers.

From the means for the features in the three sets, roughly speaking the expectations regarding the effect of the geographical spread of dialect features appear to be confirmed - as far as dialect *use* is concerned, it should be added.² This regularity only forms a tendency, however, for each set contains one or two features that behave exceptionally. On the one hand, the means for dorsal fricative deletion and R-deletion are higher than average, while on the other the mean indexes for the use of the t-deletion rule and of the derivational suffix '-də' are relatively low. The fact that the index for the average use of R-deletion is almost 95/100 seems a strong indication that this feature has been lexicalized. This consideration is in the spirit of the first solution we proposed (in § 4.2.3 above) to the problem how to decide and formally express whether a dialect feature constitutes intra- or merely inter-systemic variation.

² After all, the prediction in this connection (discussed in § 1.3.3 above) concerned dialect levelling rather than use.

	\bar{X}	n	s
A 'Ach-laut' allophony	28.31	27	30.09
γ^l -weakening	26.59	27	31.44
I-lowering	37.10	27	17.88
dorsal fricative deletion	65.89	27	22.40
[s] in dimin. suffix	45.15	27	37.66
B R-deletion	94.75	27	6.34
n-deletion	35.55	27	13.90
deriv. suffix '-lry ^l '	56.69	23	28.34
V preter. suffix weak verbs	71.90	27	38.09
V prefixless past participles	31.27	27	37.34
V subjunctive	18.68	27	27.58
V strong/irreg. ~ weak conjug.	75.63	27	30.04
C t-deletion	41.62	27	14.38
sandhi voicing	64.78	27	5.80
deriv. suffix '-dä'	42.53	27	23.66
absence inflectional shwa	85.10	27	19.91
noun pluralization	85.80	16	4.95
V strong/irreg. ~ weak conjug.	62.42	27	26.49
V stem V 2 & 3 sing. pres. indic.	81.27	27	12.24
oblique form of certain pronouns	66.10	27	25.24
expletive element	80.13	26	24.13

Table 6.1 Mean and standard deviation of the use of the dialect features in the sample

In the subsections to follow, we will present the findings for the features which appear to be undergoing dialect levelling. The numbers of these subsections run parallel to those containing the description of the features in section 5.3 in the preceding chapter. We will consider those differences in the use of each single feature between the three age groups represented in our sample of speakers, which seem to indicate what we will refer to as levelling on the *overall* level of use.

For every dialect feature we will furthermore determine whether there are different age group patterns indicating levelling in its use in the linguistic conditions and dimensions, respectively. After all, testing the second hypothesis requires among other things that we consider the question if and how dialect levelling proceeds structurally. Moreover, it might be the case that a given dialect feature does not show levelling at the overall level but only does so in specific linguistic conditions. Such

cases could constitute an argument in favour of the position that dialect levelling, like certain types of linguistic change, takes an 'etic' start before the results manifest themselves at a more 'emic' level.

After having discussed the findings for each single dialect feature, we will point out some more general tendencies. These are the subject of section 6.4.

6.3.1 'Ach-laut' allophony - A phonology

On the overall level the use of this rule shows a very marked apparent time decrease. Cf. Table 6.2. The decrease in use in apparent time is dramatic, as the means for the three age groups show; the fact that almost 60% of the variance is bound by this speaker variable strengthens this impression. Linguistically, this finding was to be expected in view of the high resemblance of the /x/ allophone to the segment /R/³, the main difference being the fact that the /x/ allophone, in contrast to the liquid, has a voiced and a voiceless realization. It is not possible to decide, however, whether the loss of this dialect feature is primarily structurally determined or if it is due to its geographically marginal position, or to a combination of these two factors.

age group		\bar{X}	s	F	df	p	%var
n of spks							
Older	9	58.64	24.89	17.9531	2.24	.0000	58.21
Middle	9	22.82	22.68				
Younger	9	3.46	6.72				
entire sample		28.31	30.09				

Table 6.2 Analysis of variance: mean and standard deviation of the use of the dialectal 'Ach-laut' allophone in the three age groups; the probability and the explained variance

Looking at the apparent time change in structural detail, we find that the use of the 'Ach-laut' allophone shows significant age effects in 10 out of the 14 conditions in which it was studied. Consider Table 6.3.

³ Cf. Anderson 1973: 73 for similar considerations.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	—
after open vowel	14.3885	2,24	.0001	49.26	—
after half-open/half-close V	18.1685	2,24	.0000	59.82	
before segment	17.4613	2,24	.0000	57.93	—
before pause	16.6222	2,24	.0000	55.13	
no gramm. boundary follows	4.6061	2,24	.0203	26.23	—
before #	16.6127	2,24	.0000	54.86	
before ##	18.8949		.0000	60.80	
before \$	19.3429	2,24	.0000	60.70	—
ambisyllabic	13.5547	2,24	.0001	52.18	
after \$	9.9278	2,24	.0007	42.76	

Table 6.3 Analyses of variance. Significant effects of the variable age group on the use of the dialectal 'Ach-laut' allophone in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

All these effects take on the form of a decrease. No statistically interesting age group effects appear in the conditions 'after short vowel' and 'after long vowel', and neither 'before vowel' or 'before consonant'⁴ (for that reason they were not included in Table 6.3). In other words, the dimensions 'length of the preceding vowel' and 'nature of the following segment' seem to play no role. But of course the same holds for the four other dimensions (the ones in the table). An indication for this is the fact that the dialect feature shows loss in all conditions grouped around each of these dimensions.

As could be expected from this finding, none of the four linguistic dimensions involved shows a significant interaction with the variable age group. The same holds for the dimensions 'length of the preceding vowel' and 'nature of the following segment'. In short, among the six linguistic dimensions involved in the analyses of the use of the 'Ach-laut' allophone, none has a clear effect on the loss of this dialect feature. Consequently, the results of these analyses do not support our tentative claim (§ 5.3.1) that the loss of this feature started after /u/ either. A finding like 'loss after half-open vowels but not after open ones' would have constituted evidence in favour of this hypothesis. The age group patterns of use of the dialect feature in these conditions show little difference, however.

⁴ This should *not* be taken to mean that no decrease in the use of the dialect feature occurs in these conditions. In fact it does occur, but never reaches the level of statistical significance.

However, whatever its internal impetus, our findings show that structurally the loss of the dialectal 'Ach-laut' allophony rule has already proceeded very far.

6.3.2 γ^l -weakening - A phonology

The age group pattern in the overall application of the γ^l -weakening rule (Table 6.4) is almost identical to the one observed in the application of the 'Ach-laut' allophony rule.

age group		\bar{X}	s	F	df	p	%var
O	9	60.58	24.75	21.8807	2,24	.0000	59.82
M	9	17.07	22.78				
Y	9	2.12	2.55				
entire sample		26.59	13.44				

Table 6.4 Analysis of variance: mean and standard deviation of the use of the dialectal γ^l -weakening rule in the three age groups; the probability and the explained variance

Some younger speakers already judge the use of [j] for γ^l to be almost incorrect. This is illustrated by the following fact. Just as in the case of t-deletion and most other dialect features, in some of the cases in the format used for the elicitation, in test-items that were not meant to elicit scores for γ^l -weakening, this dialect feature was applied. So in these cases the written form contained a 'j' where other dialects, including the standard language, have the velar fricative 'g'. After having come across some of these cases, a representant of the younger age group remarked: "always with a 'g', eh".

The loss of this rule puts an end to what may seem to be a merger from the perspective of the non-A dialects. We cannot say, however, that a segment is added or that a 'phonemic split' is taking place, because synchronically there is no reason to assume that γ^l does not form part of the phoneme inventory (cf. § 5.3.2).

What seems to be happening here on superficial examination is that a dialect is acquiring a structural distinction that existed in other dialects, including the standard language. This is the opposite of a development which took place about three or four generations ago in most Dutch dialects, including the standard variety. As a result of this development the former segmental distinction between /ɔ/ and /ɔ^l/⁵ was given

⁵ It is described in older phonologies of Dutch, e.g. B. van den Berg 1974: 30.

up. However, in a group of Limburg dialects, including the ones under study, this opposition has not yet been lost. We will not consider the question whether or not the 'functional yield' (or 'degree of functionality' - Coseriu 1958 IV.4.2.1) of the opposition between the two back vowels played a role in its loss from the phonology of e.g. the standard language or its maintenance in Limburg dialects, respectively.

The rule for the weakening of syllable initial / γ^1 / to [j] appears to be in the process of being levelled out in each of the seven conditions studied - see Table 6.5.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
part of lexeme	20.8485	2,24	.0000	56.64	-
part of bound morpheme	18.9992	2,24	.0000	58.18	
word-initial	25.1259	2,24	.0000	60.52	-
word-internal	17.7647	2,24	.0000	56.95	
before full vowel	8.1269	2,24	.0020	38.59	-
before shwa	33.1800	2,24	.0000	65.49	
before liquid	10.6815	2,24	.0005	36.61	

Table 6.5 Analyses of variance. Significant effects of the variable age group on the use of the dialectal γ^1 -weakening rule in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

For the three age groups in our speaker sample the mean indexes for the use of the dialect feature before liquids (the last of the linguistic conditions mentioned in Table 6.5) are:

Older 41.82 Middle 3.13 Younger 1.67

Comparison of these figures with the 'overall' means presented above

Older 60.58 Middle 17.07 Younger 2.12

as well as with the mean indexes for the use of the feature in other specific conditions reveals that before liquids

- the rule is already applied much less often in the dialect of the Older age group already, whereas
- the mean index of use in the Middle age group is relatively very low.

These facts seem to suggest that the decrease in application of the rule has proceeded much further before liquids than in other conditions, as was to be expected since the onset cluster [ʃ j liquid] is heavily marked. Nevertheless, this linguistic dimension does not have a significant effect on the loss of the rule, and neither do the other two dimensions.

6.3.3 *I-lowering* - A phonology

The rule for I-lowering does not appear to undergo dialect levelling.

6.3.4 *Dorsal fricative deletion* - A phonology

In our elicited data the overall use of the rule for dorsal fricative deletion shows a significant apparent time change. The findings are presented in Table 6.6.

age group		\bar{X}	s	F	df	p	%var
O	9	77.96	10.40	6.7377	2,24	.0048	31.89
M	9	72.16	9.19				
Y	9	47.55	29.19				
entire sample		65.89	22.40				

Table 6.6 Analysis of variance: mean and standard deviation of the use of the dialectal rule for dorsal fricative deletion in the three age groups; the probability and the explained variance

The decrease in use of this dialect feature is considerably less dramatic than in the case of the 'Ach-laut' allophone and the γ^1 -weakening rule, and the age group pattern is also different. In the case of this feature, the gap between the Older and the Middle group is relatively small and not significant. Statistically they form one homogeneous subset, in contrast to the allophony where all three age groups formed separate subsets⁶ and γ^1 -weakening, where the Middle group forms one homogeneous subset with the Younger speakers. Linguistically, the loss of this dialect feature was not expected, since there seems to be no reason to consider /V:t/ as more marked than /Vçt/.

Significant age group effects in the use of this dialect feature occur in all linguistic conditions that were investigated - vid. Table 6.7.

⁶ As was established by way of the Student-Newman-Keuls test for multiple comparison between means ($\alpha=.05$). The subsets computed in relation with the much more conservative Scheffé test (Ferguson 1981: 307-12), also applied with an α of .05, are Older on the one hand and Middle and Younger on the other. Henceforth, if findings from tests for multiple comparison between means and/or homogeneous subsets are presented without specification of the type of test (SNK or Scheffé), both tests produced identical results.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
after /ɪ/	5.9660	2,24	.0079	20.37	—
after other vowel	4.7680	2,24	.0180	24.29	
after front vowel	3.6189	2,24	.0423	19.11	—
after back vowel	7.6133	2,24	.0028	31.31	
before \$	7.9460	2,24	.0022	34.88	—
'split' by \$	3.6504	2,24	.0413	21.09	

Table 6.7 Analyses of variance. Significant effects of the variable age group on the use of the dialectal rule for dorsal fricative deletion in several linguistic conditions. The significance of the effect of the interaction effect between age group and linguistic dimension

There is a certain variability regarding the application of compensatory lengthening after deletion of this fricative following /ɪ/. The age group pattern in the use of the dialect feature after /ɪ/ deviates from the ideal-typical pattern of loss:

Older 59.26 Middle 64.81 Younger 29.61

The Middle age group scores higher than the Older one; the standard deviation and hence the variance are also higher, however. Besides, the difference between Middle and Older is not significant, and both groups even constitute *one* homogeneous subset.⁷ Far more interesting with respect to the dimension 'quality of preceding vowel' is the fact that loss appears to have proceeded further after /ɪ/ than after other vowels. The means for the latter condition are:

Older 84.27 Middle 80.21 Younger 55.73

As was pointed out above, there is a certain degree of formal variation when the stem vowel is /ɪ/. In this environment, fricative deletion is not categorically followed by compensatory lengthening. Indeed, the finding that loss has proceeded further in this condition may be due to the fact that the 'telescoping' of the two rules (fricative deletion and compensatory lengthening) has not been completed after /ɪ/.

Levelling appears to depend even less on other aspects of the vowel quality: significant age group effects of the type O > M > Y occur in the case of both front and back vowels, and only the Younger speakers show an interesting difference in use of the dialect feature between the two environments: 59.57 and 43.38, respectively.

Finally, levelling manifests itself more clearly if /Vçt/ is divided by a syllable boundary, i.e. if a syllable boundary occurs between the dorsal fricative and /t/. If the

⁷ According to both SNK and Scheffé tests (both with $\alpha=.05$) for the multiple comparison of means and for the calculation of homogeneous subsets.

syllable boundary follows /t/, the use of the dialect feature displays the ideal-typical and statistically significant pattern of loss O > M > Y as well, however.

As was to be expected from the age group patterns in the use of this dialect feature in the separate conditions, none of the three linguistic dimensions has a significant effect on its loss.

6.3.5 [s] in diminutive suffix - A morphophonology

The [s] in the diminutive suffix appears to be undergoing levelling. As may be re-collected from Ch. 5, the Rimburg dialect used to form a small enclave in which the epenthetic /s/ in the diminutive allomorph /skə/ does not palatalize. Our findings (Table 6.8) indicate that this situation is changing.

age group		\bar{X}	s	F	df	p	%var
O	9	76.85	28.29	7.0557	2,24	.0039	30.23
M	9	31.52	33.06				
Y	9	27.08	31.77				
entire sample		45.15	37.66				

Table 6.8 Analysis of variance: mean and standard deviation of the use of the dialect feature ' [s] in the diminutive suffix' in the three age groups; the probability and the explained variance

The levelling out of this dialect feature does not result in a decrease of structural distance to the standard language, however. After all, the /s/ is traded in -so to speak- for the palatal /ʃ/, which is relatively uncommon in standard Dutch. In other, surrounding Limburg dialects it is a common segment, and in onset clusters (preceding another consonant) it is even the only permitted realization; cf. § 2.5 above.

The same holds, *mutatis mutandis*, for the loss of the 'Ach-laut' allophony and γ^1 -weakening, which are A-features as well. Levelling of the 'Ach-laut' allophony rule consists of the loss of the velar-uvular /x/-allophone, which is identical with the standard segment. The two allophones merge into the palato-velar allophone /ç/, which is the only one in all B- and C-type Limburg dialects. Loss of the γ^1 -weakening rule means giving up the glide in favour of the palato-velar fricative - not in favour of the velar-uvular fricative which exists in the standard language. Maintenance and adoption of the velar-uvular fricative, respectively, in these two cases seems to be excluded on structural grounds, namely by the presence of the uvular liquid /ʀ/, which

is auditorily more or less fricative.⁸ Perceptually, this /R/ is very similar to the velar-uvular fricative, so their coexistence within one segment inventory would come close to a merger.

The levelling of the 'Ach-laut' allophony, the γ^1 -weakening rule, and the non-palatalization of the /s/ in the diminutive allomorph /skə/ are part of the development as a result of which the Rimbürg dialect is becoming more like the Limburg dialects of the B- and C-type. This movement does not imply a shift in the direction of the standard language. On the contrary, the loss of these three dialect features leads to structural divergence away from standard (morpho-)phonology. In these cases levelling of interdialectal variation is therefore not identical to levelling on the dialect-standard axis.

The apparent time changes in the use of the non-palatalized /s/ in the diminutive suffix were related to two linguistic dimensions. Both concern the preceding segment, that is, the final segment of the noun. The findings can be found in Table 6.9.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
after nasal	5.9455	2,24	.0080	23.08	—
after obstruent	6.2511	2,24	.0065	29.35	
after velar	7.8810	2,24	.0023	31.89	—

Table 6.9 Analyses of variance. Significant effects of the variable age group on the use of the dialect feature '[s] in the diminutive suffix' in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

For the dimension 'natural class of the final segment of the simplex' the condition 'nasal' displays a deviant age group pattern since the Younger speakers apply the rule somewhat more often than the members of the Middle age group:

Older 77.78 Middle 22.21 Younger 25.92

The difference between Middle and Young is not significant, however, and both groups even constitute a homogeneous subset.

The dimension 'place of articulation of the preceding segment' seems to have a separating effect: levelling occurs after velars, but apparently not after palato-velars.

⁸ This is the exact opposite of what happened in the northern and western parts of the country. The Dutch spoken there "has been much less ready to accept the uvular /R/ innovation than its neighbouring French and German. One explanation for this may be the fact that there already exists in Dutch a back velar or uvular fricative, corresponding to orthographic g" (Chambers & Trudgill 1980: 204).

As we pointed out already, a considerable part of the palato-velar fricatives in this context is derived: diminutivization causes umlauting of the stem vowel of the simplex form. This in turn prevents the allophony rule from applying. Consequently, /x/ surfaces as palato-velar /ç/. Irrespective of whether a final palato-velar fricative is lexically present or derived, in this context the dialect rule is applied least frequently (overall mean for our sample 31.79 with a relatively high standard deviation). This may be due to the fact that of all relevant dorsal consonants /ç/ is articulatorily closest to palatal /ʃ/ (cf. Herrgen 1986). Use of the dialect feature in this environment displays a gradual decrease. The relatively high standard deviations and hence high variance⁹ in the use of the dialect feature in this condition within the separate age groups may explain why this gradual decrease does not reach the level of significance.

Despite the difference between the two conditions with regard to apparent time levelling, the linguistic dimension 'place of articulation' does not interact significantly with the variable age group. Not surprisingly, the first dimension does not either, so we are led to conclude that these two linguistic dimensions do not have a clear effect on the process of levelling of the dialect feature.

6.3.6 *R-deletion* - B phonology

The overall use of the R-deletion rule does not show significantly different age group patterns, let alone levelling. On linguistic grounds no levelling was to be expected since the phenomenon, which changes superheavy into heavy syllables, results in a less marked structure.

Whereas the use of R-deletion does not show levelling on the overall level, it does so in five out of thirteen linguistic conditions; the most important results for these five conditions can be found in Table 6.10.

Interestingly, each of these conditions is part of a separate linguistic dimension. The loss of R-deletion after back vowels

Older 96.41	Middle 95.12	Younger 78.92
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seems to suggest a relationship between this rule and the 'Ach-laut' allophony rule, which produces the R-like /x/ or /ʁ/ after back vowels. The coexistence of the two rules within the same grammar, the fact that phonetically and distributionally the output of the one (allophony) resembles the input of the other (R-deletion), and the fact that nowadays they are both in the process of being levelled out (albeit not in overall use as far as R-deletion is concerned) may imply that these rules are structurally akin. This hypothetical structural relationship between R-deletion and the

⁹ In other words, the large amount of variation between the non-palatalized and palatalized forms, i.e. between application and non-application of the dialect feature.

'Ach-laut' allophony can be tested, as far as the process of dialect levelling is concerned, by

(1) collecting identical data for a B-type dialect, i.e. a dialect which has R-deletion but no 'Ach-laut' allophony, and subsequently

(2) comparing the Rimburg and the B-dialect findings for R-deletion.

The levelling out of R-deletion after short vowels¹⁰

Older 93.12

Middle 96.83

Younger 78.77

but not after long vowels bears out the prediction of the phonological model: the rule will disappear first where it is needed least, namely in the heavy rather than in the superheavy syllables. Cf. Hinskens 1995b for a discussion of the implications of these findings for two different theories of syllable weight.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
after back vowel	6.9595	2,24	.0041	29.55	+
after short vowel	7.5994	2,24	.0028	21.94	+
tone contour HL	7.6554	2,24	.0027	18.20	-
before /t/=[t]	3.4329	2,24	.0488	10.60	-
in: R \$ obstr (obstr) V	4.1244	2,24	.0289	25.36	-

Table 6.10 Analyses of variance. Significant effects of the variable age group on the use of the dialect feature R-deletion in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

No straightforward explanation can be given for the finding that R-deletion is being levelled out

- in HL-bearing words but not (in a statistically significant degree) in HLH-bearing words, and

- before a phonemic /t/, but not before a merely phonetic [t], nor preceding the affricate /ts/ or the fricative /ʃ/.

Anyway, R-deletion does not appear to be undergoing loss before /ʃ/, that is, in the only environment in which it occurs also in C-type Limburg dialects.

The decrease in the use of R-less variants when a syllable boundary occurs between the /R/ and the following alveolar obstruent again supports our interpretation of this feature as motivated by syllable structure (see § 5.3.6 above).

¹⁰ The members of the Middle age group score higher than the Older informants, but the difference is not significant.

R-deletion is the first of the dialect features studied so far in the use of which linguistic dimensions maintain a significant interaction effect with the speakers' age groups. The dimensions 'place of articulation' ($F=9.87$ $df=2,24$ $p=.001$) and 'length of the preceding vowel' ($F=3.65$ $df=2,24$ $p=.041$) apparently affect the decrease in use of this dialect feature.

6.3.7 *n*-deletion - B phonology

Age group effects or dialect levelling do not occur in the overall use of the *n*-deletion rule, but they do occur in the use of the feature in a specific linguistic condition. After R-deletion, final *n*-deletion is the second dialect feature analysed so far that displays apparent time levelling only in certain linguistic conditions, but not at the level of overall use. Consider Table 6.11.

	significant interaction effect age gr. x ling.dim.?				
	F	df	p	%var	
before C	4.0086	2,24	.0315	24.55	–

Table 6.11 Analyses of variance. Significant effects of the variable age group on the use of the dialectal *n*-deletion rule in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

The use of this dialect feature does not show significant age group effects related to the dimensions

- word class (four conditions)
- the number of morphemes (i.e. there is no significant difference between *n*-deletion in monomorphemic words and that in compounds)

However, the application of the rule before consonants is decreasing, which means that the phonetic realization of the final /n/ in the relevant words preceding a consonant-initial word is increasing. In connection with the *n*-deletion rule the dialect is thus moving away from the maximally unmarked CV syllable structure and CV\$CV syllable sequence. Because of the universal tendency towards CV\$CV sequences, loss of the *n*-deletion rule was to be expected to be most likely before vowels, where application of the rule produces hiatuses:

CV[n] ## V → n-del → CV ## V

Indeed, application of the rule, which is already relatively limited on the overall level, decreases in these types of structures, witness the mean indexes of use of the rule before vowels:

Older 14.64

Middle 11.11

Younger 10.46

However, this decrease is not significant, and neither are the differences between the age group patterns in the use of the rule in the three right-hand phonological environments.

The ongoing loss of the dialectal *n*-deletion rule before consonants seems to be determined exclusively by extralinguistic factors. One of these factors is doubtless the fact that the rule does not exist in the standard language¹¹ nor in the C-type Limburg dialects. The relatively limited use of the rule before vowels, which may result from an earlier levelling process, is moreover supported by universal linguistic tendencies regarding the internal structure of syllables.

In § 8.4 and in § 8.5.2 below we will return to the unsatisfactory epithet 'certain monosyllabic words' in the description of the *n*-deletion rule and to the interrelationship between this rule and the one which lowers /ɪ/ before /n/ and /ŋ/, described in § 5.3.3 above.

6.3.8 Derivational suffix *-lɪç*¹ - B morphophonology

Judging from the age group pattern, the fricative-final variant of the derivational suffix *-lijk* appears to be decreasing. Consider Table 6.12:¹²

age group		\bar{X}	s	F	df	p	%var
O	8	80.16	13.07	19.2895	2,20	.0000	62.57
M	6	66.25	18.64				
Y	9	29.45	19.68				
entire sample		56.69	28.34				

Table 6.12 Analysis of variance: mean and standard deviation of the use of the dialectal derivational suffix *-lɪç* in the three age groups; the probability and the explained variance

It is tempting to try to reconstruct the history of the geographical spread of the fricative in this morpheme, even though only few older data are available. In the following matrix, the presence ('+') vs. absence ('-') of the feature is given at several

¹¹ In § 8.4.2 we will briefly discuss a partly comparable variable rule of both the standard variety and most other dialects of Dutch - including the ones under study here.

¹² The indication 'entire sample' in this table should not be taken literally, since there are some responses missing for some speakers. Rather, the indication refers to the 'valid response'. This also holds for all tables to follow.

points during the last century, as attested in several studies¹³ for the C-type dialect of Sittard as well as for the B-type dialects spoken in Heerlen, Schaesberg, Nieuwenhagen, Waubach and in the A-type dialect of Rimburch. The latter ordering reflects the relative geographical ordering from southwest to northeast.

	1884 Jongeneel	1886 Willems	1914 SGV	1932 DC	1948 RND	1987 [FH]
C Sittard		–	–		–	–
B Heerlen	+	+	+		–	–
Schaesberg			+		–	–
Nieuwenhagen					–	–
Waubach				+	+	variable
A Rimburch			+			variable

Figure 6.1 [+cont] final segment in the derivational suffix '-lijk' in several Limburg dialects during the last one hundred years

As there are too many empty cells in this matrix (indicating that no data were available), no clear pattern emerges. However, the available data suggest the type of geographical development which was predicted by Schrijnen in 1920 on the basis of the SGV-data on the one hand and findings by the famous German dialectologist Frings on the other. With respect to the isogloss demarcating this very dialect feature¹⁴, Schrijnen wrote: "it is inevitable that the line will continue to move southward" (1920: 38 - my translation, FH). Six years later, Frings himself pointed out that "Dutch *-lijk* is ousting High-German *-lich* from the Limburg dialect area" (Frings in Aubin et al. 1926: 185 - my translation, FH). As far as the direction is concerned, it should be added that nowadays the feature still appears to be relatively unaffected in the dialects spoken in Kerkrade. In all, it seems that Schrijnen's prediction and Frings' observation are borne out by our facts.

If the above reconstruction of the spatial history of the feature is correct, then the interpretation of the LV sketched in § 5.3.8 can now be completed. In our view, the dialect feature constitutes either a lexicalized residue (a relic) or a lexicalized 'front' of the Second or High-German consonant shift (see § 3.3.2 above), which took place in the early Middle Ages, and which has moved westward. During the last fifty years or so this beachhead is giving way to the standard language annex East-Limburg morphophonology, albeit in a spatially gradual way. This scenario can be metaphori-

¹³ All sources were sketched in § 4.2.2 above. Unfortunately, Winkler 1874 does not contain any of the relevant words.

¹⁴ Of course, given the data in SGV 1914, on Schrijnen's map (p. 38) the dialects spoken in Heerlen and Schaesberg were still located east of the isogloss.

cally described as a wave: in the suffix *-lijk* the feature [+cont] has reached its maximum areal spread¹⁵ either on the top or as a spin-off of the expanding wave of the Second or High-German consonant shift. Some twelve hundred years later¹⁶ the feature is being gradually pushed back and out of the Dutch language area by the wave of the Dutch standard language, which coincides with and is thus reinforced by the East-Limburg dialects in this respect. The findings from a small-scale study by Daan (1971) suggest a comparable development -also with respect to the geographical directionality- in connection with a phonological and a morphological phenomenon in a group of dialects spoken in the Veluwe, an area in the east of the Dutch language area.

The loss of the dialectal derivational suffix *-lyl*¹ disrupts the natural unidirectional development from phonological to 'morphonological' to allomorphic morphological rules as postulated by Dressler, among others (A. Kaye 1988: 529). The first step has been made, but, given our findings, the will second one most probably not be completed.

The levelling out of the dialectal use of a fricative rather than plosive final segment in this derivational suffix occurs in all three linguistic dimensions studied. Cf. Table 6.13.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
in adjectives	16.5361	2,20	.0001	57.41	-
in adverbs	7.0485	2,24	.0039	36.89	
adjectives: attributive	24.7443	2,20	.0000	69.29	-
followed by an inflect.shwa	25.2466	2,24	.0000	67.62	+
not followed by a shwa	13.1558	2,20	.0002	51.46	

Table 6.13 Analyses of variance. Significant effects of the variable age group on the use of the dialectal derivational suffix *-lyl*¹ in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

On the dimension 'word class' loss is most clearly manifest (i.e. has proceeded furthest) in adjectives.¹⁷ Within the class of adjectives, levelling is not an undifferen-

¹⁵ Apart from the few words (mainly personal pronouns - see § 5.3.8) in which the consonant shift is preserved even in the C-type Limburg dialects.

¹⁶ As a point of reference we use Sonderegger's dating, as summarized in Wolf 1983: 1119.

¹⁷ Cf. Hinskens 1995a and 1995b for discussion and a formal account of the effect of this dimension on the use of the dialect feature.

tiated process: it occurs in attributively, but not in predicatively used adjectives.¹⁸ In this respect, Jeanine Treffers' (1989) findings regarding the integration of French loans in the Brussels variety of Flemish constitute an interesting parallel. Her findings lead her to the conclusion that borrowed adjectives occur much more frequently in predicative (total 70% in Treffers' data) than in attributive position (maximally 15%). This is related in part to the fact that grammatical integration of attributive adjectives involves integration of both morphological (gender and number) and syntactic aspects (position relative to the noun), as against predicative ones, which need no further adaptations. Abstracting away from differences between both investigations, the findings

- that loaned adjectives come into predicative use long before they become sufficiently integrated to be used attributively, and

- the fact that the dialectal fricative segment of our derivational suffix is more resistant to loss in predicative than in attributive adjectives

seem to suggest that the predicative position is the 'stronger' one. It might be worthwhile to check whether the assumptions regarding (main) syntactic categories, barriers and language indexes which Treffers proposes to explain her findings can be studied for our data, and if so, whether or to what extent they are borne out by our findings.

The correlation between predicative vs. attributive use of adjectives on the one hand and analytical vs. synthetic constructions on the other, and any related differences in relative markedness may supplement or even support Treffers' type of explanation.

The last dimension studied in connection with the use of the derivational suffix '-lry¹', the presence or absence of an inflectional shwa and consequently the position in the syllable of the morpheme-final segment, does not seem to be an important determining factor in the levelling process: levelling takes place in both conditions and the age group patterns are comparable. However, it appears to be the only one of the three linguistic dimensions that affects the process of the levelling of this dialect feature to a significant extent ($F=4.43$ $df=2,20$ $p=.025$). The indexes representing the use of the dialect feature in the three age groups display a much steeper decline and a wider range in the shwa-bearing forms:

Older 92.78	Middle 53.33	Younger 20.00
-------------	--------------	---------------

than in the shwa-less ones:

Older 76.25	Middle 68.33	Younger 32.60
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The fact that the shwa-bearing forms run ahead in the loss may well be related to the fact that in these forms after resyllabification the segment at stake is in onset position. In case the dialect feature is used, there is a fricative rather than a plosive morpheme-final velar obstruent in syllable-initial position - where it does not undergo final

¹⁸ It should be added that in predicatively used adjectives the use of the dialect feature appears to be decreasing as well. This age group effect does not reach the .05 level of significance, though, and hence does not meet our criterion of levelling.

devoicing, and hence surfaces as $[\gamma^1]$, which may in turn fall prey to the A-type postlexical rule of γ^1 -weakening.

6.3.9 *Preterite suffix - B morphology*

The preterite suffix -æt of weak verbs does not appear to undergo dialect levelling.

6.3.10 *Prefixless past participle - B morphology*

Of the four morphological dialect features in the B-set that were investigated three show signs of levelling. The use of the dialectal prefixless past participle of a closed group of verbs with a perfective meaning appears to be decreasing dramatically. Consider Table 6.14.

age group		\bar{X}	s	F	df	p	%var
O	9	67.28	34.97	15.9221	2,24	.0000	56.19
M	9	26.54	26.91				
Y	9	0.00	0.00				
entire sample		31.27	37.34				

Table 6.14 Analysis of variance: mean and standard deviation of the use of the B-type dialect feature 'prefixless past participles' in the three age groups; the probability and the explained variance

It may very well be the case that 'dramatic' is not the right term here. If -for the moment- we assume that the speed at which different dialect features are levelled out is more or less constant¹⁹, the levelling out of this feature may simply have started a longer time ago, so that it has proceeded further. None of the Younger speakers used prefixless past participles in our elicited data. The latter fact means that the assumption of homogeneity, which underlies the analysis of variance, is violated. However, in general this technique is fairly robust in this respect.

¹⁹ Which it is evidently not, witness e.g. the differences in the part of the variance related to age (%var) between the eleven dialect features displaying loss in the overall use.

6.3.11 *Subjunctive* - B morphology

The use of the (past) subjunctive mood, which was obviously already under heavy pressure in the dialect of the Older speakers, appears to decrease to less than two out of a hundred cases in which the LV occurs in the speech of the Younger speakers; see Table 6.15.

age group		\bar{X}	s	F	df	p	%var
O	9	35.66	31.41	4.2194	2,24	.0269	26.01
M	9	18.52	28.49				
Y	9	1.85	5.56				
entire sample		18.68	27.58				

Table 6.15 Analysis of variance: mean and standard deviation of the use of the B-type dialect feature 'subjunctive' in the three age groups; the probability and the explained variance

In all cases where the subjunctive was not used, the preterite of the indicative occurred instead, which formally differs from the subjunctive in that the stem vowel does not show umlauting. Additional, concomitant changes are syntactic. First, whereas the word order in the embedded sentence is optional (SVO or SOV) in case the subjunctive is used, with the preterite the order SVO is excluded. Secondly, the indicative requires a conjunction, as the COMP position is no longer occupied by the subjunctive. The levelling out of this part of the Tense-Mood-Aspect system is a development from -broadly speaking- more morphology and less syntax to less morphology and more syntax: the loss of the subjunctive mood, as a reduction of the morphological means of expressing doubt, etc., restricts syntactic freedom and hence must be compensated for -as it were- by an increasing of syntactic restrictions.²⁰

This development may be compared to the case of 'functional compensation' described by Hochberg (1986): one of the features of Puerto Rican Spanish is s-deletion. Among other things, this feature affects the verbal morphology, as a result of which 2 sing. forms lose marking which is non-redundant in this originally pro-dropping system. This, in turn, leads to the increased use of the subject pronoun, especially in the case of verb forms which are rendered ambiguous by s-deletion.

²⁰ Cf. Koefoed 1978: 24, 42; Muysken 1978: 186. The process triggered by the loss of the subjunctive is simple in comparison to the loss of (especially syntactic) ergativity in 'dying Dyirbal' (A. Schmidt 1985).

As such, the gradual replacement of the subjunctive by the preterite of the indicative and its syntactic consequences constitute a case of 'markedness reversal'. For this phenomenon Mayerthaler and Markey drew up the following formulas, which are essentially equivalent:

$$(2a) \quad \begin{array}{ccc} < & > & > \\ m & \rightarrow & m & / \text{ m-context} \end{array}$$

$$(b) \quad \begin{array}{ccc} > & < & \\ m & \rightarrow & m & \end{array} \quad \text{Mayerthaler (1988: 36 ff.)}$$

$$(3) \quad \begin{array}{ccc} > & < & \\ m / _ & -m & \rightarrow & m / _ +m \end{array} \quad \text{Markey (MS: 3; 1981: 16, 23)}$$

In a relatively marked context an otherwise unmarked form becomes a marked option (2a) and is therefore changed into an unmarked form (2b). Vice versa, a relatively marked form in a relatively unmarked context changes into a relatively unmarked form in a relatively marked context (3).

In the above case the starting-point is the past subjunctive, which is a morphologically marked form, occurring in a syntactically unspecified environment (SVO, which in Dutch is the surface structure of the matrix clause, hence the unmarked syntactic context). The subjunctive then gives way to the preterite indicative, the morphologically less marked option, which is limited to a specific type of syntactic context, however, namely the syntactic pattern SOV, which is restricted to embedded sentences. It will be clear that this two-step process cannot be called 'reduction' in the sense of the "actual loss of some part of a language, without resulting complication of another component to make up for that loss" (A. Schmidt 1985: 395).

It would be interesting to establish whether and, if so, how the loss of the subjunctive proceeds lexically. If subjunctive formation is governed by a minor rule or, more generally, a morpholexical rule, the subjunctive would be predicted to vanish by way of an increasing number of 'exceptions' to the rule, i.e. through a decrease of the number of relevant verbs (Booij 1981: 142, 158).

6.3.12 *Strong or irregular versus weak conjugation* - B / C morphology

The LV 'strong or irregular vs. weak conjugation' falls into two dialect-geographically and structurally distinct clusters of verbs. The deviant conjugation of one cluster of verbs distinguishes the A- and B-type Limburg dialects from the rest, that of the second one occurs also in the C-type dialects.

With respect to levelling, the LV behaves in conformity with our second hypothesis, in that the dialect feature with the smallest areal spread (B) is undergoing loss (Table 6.16), as against the one with the wider spread, which is stable. The difference

between the age group patterns in the use of the B- and the C-type dialect feature is highly significant (the interaction effect age group x B/C reaches $F=6.65$ $df=2,24$ $p=.005$).

Compared to the other two features of the dialectal verb morphology that were found to be undergoing loss (prefixless past participles and the subjunctive), the decrease in use of this specific feature is much less dramatic. See Table 6.16.

age group		\bar{X}	s	F	df	p	%var
O	9	92.60	14.68	8.5494	2,24	.0016	36.33
M	9	85.20	17.55				
Y	9	49.08	34.48				
entire sample		75.63	30.04				

Table 6.16 Analysis of variance: mean and standard deviation of the use of the B-type dialect feature strong/irreg. ~ weak conj. in the three age groups; the probability and the explained variance

The loss of the B-type dialect feature could be expected because of two reasons:

(1) in the A- and B-type dialects the relevant verbs displayed

- either variation between weak and irregular conjugation (whereas in the C-dialects and the standard language their conjugation is irregular),
- or variation between strong and weak conjugation (whereas in the C-dialects and the standard language their conjugation is weak). In none of these two cases does the conjugation of the cluster of verbs in the C-type dialect feature show internal variation;

(2) the use of the dialectal conjugation shows more variation in the verbs of the B-type ($s=30.04$) than in the verbs of the C-type dialect feature ($s=26.49$).

The decreasing use of this specific B-type dialect feature adds up to the loss of

- the weak in favour of the irregular conjugation in the relevant subcluster of verbs. This shows that the development need not necessarily be one from strong or irregular to the more transparent weak conjugation - as happened in Afrikaans;
- the strong in favour of the weak conjugation in the other subcluster of verbs. Bakkes (1967: 159) described a similar recent development in the case of the verb *kennen*, 'to know', in the dialect of Montfort near Roermond.

Giving up the strong in favour of the weak conjugation may in turn accelerate the loss of the subjunctive. After all, all verbs with a past subjunctive form have either an irregular or a strong conjugation (cf. § 5.3.11 above).

6.3.13 Stem vowel 2 & 3 sing. pres. indic. strong verbs - C morphology

The last LV regarding verbal morphology was labelled 'stem vowel 2 & 3 sing. pres. indic. of certain strong verbs'. The use of this C-type dialect feature does not show statistically interesting age group effects, let alone loss.

6.3.14 *t*-deletion - C phonology

The rule for word-final *t*-deletion does not appear to undergo dialect levelling.

6.3.15 Sandhi voicing - C phonology

Neither the general nor the more dialect-specific expansion of the rule for sandhi voicing (see § 5.3.15 above) appear to undergo dialect levelling.

6.3.16 Derivational suffix '-də' - C morphophonology

The use of the dialect variant of the derivational suffix *-te* seems to be decreasing:

Older 57.12 Middle 36.88 Younger 33.59

but the pattern does not reach the .05 level of significance. So our initial impression that in the community grammar the lexical form of the suffix is gradually changing into *[-tə]*, the standard variant, is not confirmed by the statistical analyses of the data regarding elicited dialect use on the overall level.

We do find loss on a specific level. The derivational suffix '-də' is thus the last of the three dialect features showing dialect levelling only in specific linguistic conditions. The use of the dialectal form of the suffix seems to be decreasing gradually both in nominalizations of original adjectives and in adjectivalizations of the past participles of weak verbs and in deadjectival nouns, but levelling occurs only in the former category. Cf. Table 6.17.

	significant interaction effect age gr. x ling.dim.?				
	F	df	p	%var	
in nominalizations	5.3020	2,24	.0124	23.31	-

Table 6.17 Analyses of variance. Significant effects of the variable age group on the use of the dialectal derivational suffix '-də' in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

This finding is in accordance with the fact that overall the dialect feature is used much less frequently in nominalizations. These patterns may be related to differences in incidence and productivity between the two procedures, both of which are lowest in nominalized adjectives and deadjectival nouns.

From our historical reconstruction (presented in § 5.3.16), $[-tə]$, the standard language variant of this derivational suffix, emerged as the lexicalized form of what once must have been merely a phonetic variant, the allomorph following roots ending in a voiceless obstruent.²¹ Under this scenario, the grammatically gradual loss of the Limburg derivational suffix $[-də]$ can be interpreted as an overtaking manoeuvre. The levelling process seems to be conditioned grammatically, although the linguistic dimension 'grammatical nature of the derived word' does not maintain a significant interaction effect with the age group of the speakers. Closer examination of the findings leads us to suspect that in this function the dialect variant of the suffix most probably will not survive in any part of the grammar.

6.3.17 *Absence inflectional shwa* - C morphophonology

The age group pattern in the overall use of shwa-less adnominal elements suggests that this dialect feature is undergoing loss. See Table 6.18.

age group		\bar{X}	s	F	df	p	%var
O	9	90.65	14.16	4.1189	2,24	.0290	16.47
M	9	93.43	10.55				
Y	9	71.22	25.45				
entire sample		85.10	19.91				

Table 6.18 Analysis of variance: mean and standard deviation of the use of the dialect feature 'absence inflectional shwa' in the three age groups; the probability and the explained variance

The dialect feature appears to be used slightly more often in the Middle than in the Older group. This difference is not significant, however, as shown by the results of the tests for multiple comparison between means. In short, these results confirm the impression that the most important difference is the one between the Younger

²¹ In the standard language weak verbs with a stem that underlyingly ends in a voiceless obstruent 'select' $[-tə]$ rather than $[-də]$ as the preterite suffix - see § 5.3.9.

speakers on the one hand and the ones from the Middle and Older age groups on the other.

Still, the use of the shwa-less forms appears to decrease, at least in apparent time, which does not come as a surprise. As was shown in §§ 5.3.14 and 5.3.17 above, in the A-, B- and C-type Limburg dialects the inflection of adnominal elements is determined by four parameters:

- gender,
- number,
- whether or not the noun is lexically expressed, and
- certain phonological characteristics of the adnominal, an important one of which is the underlying [voice] value of the final segment.

The third parameter is relevant only for sing. neuter, where a [t] is suffixed to the adnominal element in case the noun is not expressed lexically. The fourth parameter determines whether (4a) or not (4b) the inflectional shwa surfaces; this is a complicated and relatively abstract structural parameter.

(4a)	M	F	n	(4b)	M	F	n
sing.	-ə	-ə	∅ / -t		-ə	∅	∅ / -t
plur.	-ə	-ə	-ə		∅	∅	∅

The levelling out of the shwa-less inflection has two important advantages: first, it reduces the internal multiformity by homogenizing the paradigm. Second, it reduces the inter-systemic variation between the dialect and the standard language. So in all, the rule for shwa-deletion seems to be threatened by a conspiracy of drift on the one hand and the pressure which is exerted by the prestige variety on the other. If the rule is really in the process of being levelled out, this process has apparently only just set in - as appears from the findings presented in Table 6.18.

Loss of the shwa-less inflection takes place in one condition in each of the three linguistic dimensions studied. Vid. Table 6.19.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
in pronouns	5.7031	2,24	.0094	24.16	—
one adject. per NP	3.9594	2,24	.0327	17.38	—
sing.	4.2299	2,24	.0267	15.12	—

Table 6.19 Analyses of variance. Significant effects of the variable age group on the use of the dialect feature 'absence inflectional shwa' in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

Strikingly, in five out of the six single linguistic conditions in which the use of shwa-less forms was investigated, the speakers of the Middle age group score somewhat higher than those of the Older age group.²² In all conditions, the Younger group scores considerably lower than the other two groups, so that all in all in apparent time loss of the shwa-less inflection occurs nonetheless - significantly so in the three conditions in Table 6.19. Moreover, the difference between Older and Middle is never significant, and in all six conditions both age groups together form one homogeneous subset.

Levelling *stricto sensu* only occurs in pronouns and not in adjectives. Similarly, levelling only takes place if one, but not if two adjectives occur in an NP. This finding seems to call for a psycholinguistic explanation. From a quantitative perspective, the third dimension, singular vs. plural, is the least discriminatory; the probability of the age group pattern in the use of the dialectal deletion rule in plural phrases (namely .0511) is just slightly above the cut-off point. However, the non-significance of the interaction which each linguistic dimension maintains with the speakers' age group leads us to conclude that none of these three dimensions has a clear discriminating effect on the age group patterns in the use of this dialect feature. In other words, none of the three linguistic dimensions has a statistically significant impact on the levelling process.

6.3.18 Noun pluralization - C morphology

The number of representatives of the three age groups who produced valid data for *all* separate indexes on which the overarching dependent variable 'noun pluralization' is based is relatively small, especially in the Middle group. Therefore we should be cautious in generalizing the findings regarding the overall age group effect, which suggests loss of this dialect feature. Consider Table 6.20.

Remarkably, the variance as well as the differences between the age groups are small. From the Older to the Younger age group there appears to be a slight but significant decrease in the 'correct' use of the spectrum of operations for noun pluralization. The results of the two tests for multiple comparison between means indicate that the difference between these means is significant. The findings from the SNK indicate that the difference between the means for Older and Middle is also significant ($\alpha \leq .05$), but in view of the small number of speakers, especially of the Middle age group, we attach less generalizing weight to this fact.

²² In the pronouns both age groups have an average shwa-lessness index of 100.

age group		\bar{X}	s	F	df	p	%var
O	6	90.48	4.19	11.2521	2,13	.0015	62.82
M	3	85.34	2.90				
Y	7	82.00	2.24				
entire sample		85.80	4.95				

Table 6.20 Analysis of variance: mean and standard deviation of the use of the dialectal noun pluralization morphology in the three age groups; the probability and the explained variance

The individual cells in the grid of internal and external pluralization operations (Fig. 5.1 in § 5.3.18) were not investigated for age group effects because in the dialect use elicited the average number of realizations per informant per cell rarely exceeds 2. Our analyses concentrated on operations and bundles of operations. In five out of twenty-five cases the age group effect turned out to be significant. These are presented in Table 6.21.

The first remarkable fact is that no *internal* operations appear to be involved in a process of change. The fact that internal pluralization morphology, which does not exist in the standard language, thus appears to be relatively stable shows that dialect levelling is not necessarily equivalent to structural convergence to the standard.

Four out of five significant apparent time changes concern *external* morphology, i.e. suffixation. It is quite striking that suffixation in general is undergoing dialect loss and the zero suffix, which hardly occurs in the standard language, is not.

The suffix -əʁ, which shows a significant age group effect, is the only of the three dialectal plural suffixes which as such is no longer in use as a pluralization marker in the standard language. The age group pattern for the use of this suffix deviates from the ideal-typical pattern of loss, vid.

Older 98.41 Middle 76.19 Younger 79.37

The Younger speakers score higher than the ones from the Middle age group, but the difference is not significant. The other four significant age group effects on the use of a specific aspect of the dialectal pluralization morphology take on the ideal-typical pattern O > M > Y. However, the cases of loss of external pluralization morphology are based upon relatively small numbers of speakers, with the exception of the suffix -əʁ. Moreover, the linguistic dimension 'suffix type' is the only one which appears to affect the loss process, as is evident from the significance of the interaction between each of the linguistic dimensions on the one hand and age group on the other. For the interaction effect between the dimension 'suffix type' and age group we found $F=2.53$ $df=6,39$ $p=.036$.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
root-ext.: suffixation generally	7.8650	2,13	.0058	53.69	–
root-ext.: suffix -ər	20.0876	2,24	.0000	39.31	+
root-ext.: suffix & phonol. alteration (no internal morphol. operations)	5.8957	2,15	.0129	38.61	–
root-ext.: +/– suffix & phonol. alteration (no internal morph. operations)	6.8473	2,15	.0077	45.32	–
global: several (morphol./morphol. & phonol.) operations	9.0811	2,21	.0014	46.20	–

Table 6.21 Analyses of variance. Significant effects of the variable age group on the use of several aspects of the dialectal noun pluralization morphology. The significance of the effect of the interaction between age group and linguistic dimension

The fact that levelling applies in the purely external type of operation suffix & phonological alteration, as against the (also exclusively external) type of operation suffixation *tout court*, may be interpreted as simplification. The same could be said about the finding that the purely external type of operation +/– suffix²³ & phonological alteration is in the process of being levelled out, as opposed to the (also exclusively external) type +/– suffixation. It seems as though in each of the latter two operations which are apparently threatened, it is the lexically unspecified phonological alteration that brings about the loss.

On a more *global* level, loss occurs in the category 'several (morphological or morphological and phonological) operations', but not in the categories 'one operation' or 'several, but only morphological operations'. This seems to be another instance where the relatively most complicated plural forms are prone to levelling. Still, in the levelling within the dialectal pluralization system there is no general, pervading tendency in the direction of a simpler system. If this were the case, then internal morphology would certainly be involved, especially in the cases where several internal

²³ I.e. the nouns which form their plurals exclusively by suffixation and the subgroup of nouns which do not show any alteration at all (the zero-suffix, no internal morphological operation; phonological alteration never occurs in this subgroup).

operation types interact. They form the only cell (the 'appendix' in the grid in Fig. 5.1) that was as such studied for apparent time change. Since it contains seven scores for each speaker, detailed study makes sense in this case. The age group effect is far from significant, however.

A structural change may be taking place in the case of nouns which form their plural with the suffix -əR and delete intervocalic /d/, e.g.

- (5) blɑ/d/ : blaːR 'leaf - leaves'
 rɑ/d/ : RAːR 'wheel(s)'

The change that seems to be taking place consists of the addition of the umlauting rule, which is also in use as a pluralization operation, both independently and in combination with other operations. In other words, nouns of the type in (5) may be moving towards another cell in the grid of operations. Consider Table 6.22.

age group	blaːR	bleːəR	other form
	RAːR	REːəR	
O	18	0	0
M	3	14	1 = [blaːdər]
Y	0	15	3 = 2 x [blaːdər], 1 x
st.l.variant			

Table 6.22 The realizations of the blɑ/d/ : blaːR pluralization type in three age groups ($\chi^2=44.63$ df=4 $p<.001$)

This finding, which deserves further study, points towards a change which can only be evaluated as a grammatical complication - which is the reverse of simplification. This complication is the result of rule addition.

6.3.19 *Oblique forms of certain pronouns* - C morphosyntax

The dialect variants of the oblique forms of certain demonstrative, relative and interrogative pronouns do not appear to undergo dialect levelling.

6.3.20 Expletive elements - C morphosyntax

The overall use of the dialect variants of the standard Dutch expletive *er* appears to be decreasing, as the figures in Table 6.23 show.

age group		\bar{X}	s	F	df	p	%var
O	9	100.00	0.00	11.4663	2,23	.0004	49.91
M	8	80.62	18.98				
Y	9	59.81	24.42				
entire sample		80.13	24.13				

Table 6.23 Analysis of variance: mean and standard deviation of the use of the dialectal expletive elements in the three age groups; the probability and the explained variance

First of all, it is quite striking that the Older speakers as a group score 100; in the light of this finding it is no surprise that the variance in the use of the dialect variants across the three age groups is skewed. Second, the apparent time decrease seems to be almost perfectly regular; each of the three age groups constitutes a homogeneous subset²⁴ in itself.

The question arises whether the levelling process is similar for the two dialect variants of standard expletive *er*. To begin with, the loss of the part of the dialectal morphosyntax corresponding to standard Dutch expletive *er* takes place both in initial (/ət/) and in non-initial position (Ø, as in German). Consider Table 6.24.

The loss of the two dialect variants of standard expletive *er* does not proceed along similar lines, as appears from

- (a) the large difference in the part of the variance in the use of the dialect grammar in the two conditions which is explained by the speakers' age groups (%var), and
- (b) the probability of the interaction between this linguistic dimension and the variable age group ($F=3.61$ $df=2,23$ $p=.043$).

This becomes clearer if we compare the mean indexes of use of the dialect feature in initial position

	Older 100.00	Middle 56.25	Younger 35.19
with those for non-initial position			
	Older 100.00	Middle 96.30	Younger 74.07

²⁴ Obtained with SNK. With Scheffé ($\alpha=.05$) they are Old+Middle and Middle+Young. In this unbalanced case, homogeneous subsets were computed on the basis of harmonized means.

These age group patterns suggest that the loss started relatively recently, and that it proceeds much faster in initial syntactic position than in other positions. As a result, speakers of the Younger age group appear to control this part of the dialect grammar much better in non-initial than in initial position. In other words, in the initial syntactic position the shift in the direction of the standard language has advanced considerably further than in other positions.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
first position	9.8127	2,23	.0008	44.37	+
other position	4.5263	2,24	.0215	23.41	

Table 6.24 Analyses of variance. Significant effects of the variable age group on the use of the dialectal expletive elements in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

Given the age group patterns, it seems probable that the shift started in initial position. The presumable scenario of the shift is sketched in Figure 6.2 below.

The relexification by way of which /ət/ was traded in for /dər/, the step from t_0 to t_1 , amounts to a change in 'outer form'.²⁵ This change is a convergence to the standard language, which has /dər/ as the colloquial variant of *er*. The relexification was undoubtedly supported by the fact that in the dialect /dər/ and the full form /do-ə/ were already present in the meaning of *er* - locative and pronominal adverb (see § 5.3.20). The second step $t_1 \rightarrow t_2$ consists of a grammatical reinterpretation of this 'new' expletive /dər/ in initial position as a PP, a change in 'inner form'.²⁶ This cleared the way for the syntactic change ($t_2 \rightarrow t_3$) as a result of which expletive /dər/ is now permitted in non-first position. The entire process thus consists of a divergence from the German and a convergence to the Dutch standard grammatical type.

²⁵ Wilhelm von Humboldt's 'äussere Sprachform' (Bussmann 1983: 212).

²⁶ Cf. Muysken 1978: 187-89 for a comparable case. Unlike the other steps in our scenario, this one is not corroborated by the quantitative facts and must therefore be considered to be speculation. It could very well be that there are speakers in whose grammar the changes $t_0 \rightarrow t_1$ and $t_1 \rightarrow t_2$ came about in *one* step $t_0 \rightarrow t_2$.

time	initial position	other position	grammatical type
t_0	ət =NP	—	German
	relexification with standard variant	—	
t_1	dər =NP	—	
	grammatical reanalysis on the standard model		
t_2	dər =PP	—	
t_3	dər =PP	dər =PP	Dutch

Figure 6.2 Possible scenario of the levelling out of the dialectal morpho-syntax corresponding to standard Dutch expletive *er*

As a side remark, the dialect is not only changing with respect to expletive *er*. The dialect equivalents of standard

- partitive *er*, namely the genitive /əs/, and

- separated pronominal adverb *er*, namely /do·ə/ in /do·ə/ ... x ... P

are also giving way to the colloquial standard variant /dər/.²⁷ So the levelling out of the dialectal morphosyntax corresponding to standard Dutch expletive *er* is part of a broader shift in the direction of standard *er* and its syntactic corollaries.

²⁷ Examples can be found in Hinskens 1983: 166, 169-70 and Hinskens 1985: 127-29.

6.4 General patterns and tendencies. Conclusions and discussion

In this final section we will first of all present an overview of the findings on dialect levelling that emerged from our analyses of the elicited dialect use. Furthermore, we will attempt to detect patterns and tendencies that surpass the level of the individual dialect feature. In doing so, we will evaluate the first two hypotheses deduced from the sociolinguistic model of dialect levelling (§§ 1.3.2 - 1.3.3 above).

6.4.1 An overall picture of the findings. Evaluating the first hypothesis

The following table shows which dialect features do and which do not appear to be undergoing loss, as well as the proportion of the linguistic conditions and dimensions involved in the analyses which play a role in the ongoing loss.

The two following observations are intended to clarify the table. First, the column 'LOSS conditions' indicates the proportion of the linguistic conditions studied under which loss takes place. 'LOSS dimensions' indicates the proportion of the linguistic conditions studied which turn out to have a significant effect on the process of loss.

Second, as pointed out in § 6.2.2, in our analyses the use of the dialect features concerning *Verb* morphology was not related to linguistic dimensions.

On the level of overall use, eleven of the twenty-one dialect features appear to be in the process of being levelled out.

Three of the eleven dialect features, namely R-deletion, n-deletion, and the derivational suffix '-də', exhibit significant age group effects which imply decreasing use and therefore loss only in specific linguistic conditions and not in overall use.

Of the fifteen dialect features that were studied in relation with families of conditions (linguistic dimensions), four show a levelling process which is motivated by some linguistic dimension(s), namely R-deletion, the derivational suffix '-lɪɹ¹', noun pluralization and the expletive elements.

We will now consider the findings presented in this chapter to the extent that they concern the hypotheses presented in Ch. 1. According to hypothesis I, dialect levelling is a two-dimensional process in that it affects not only variation on the dialect - standard language dimension but also variation across dialects, while in processes of dialect levelling both dimensions can be mutually independent. Hypothesis II says that dialect levelling proceeds gradually both linguistically and extra-linguistically; in the latter connection we concentrate on the parameters time and geographical space.

	overall	LOSS ? conditions	dimensions
A 'Ach-laut' allophony	+	10/14	0/6
γ ^l -weakening	+	7/7	0/3
I-lowering	-	0/6	0/3
dorsal fricative deletion	+	6/6	0/3
[s] in dimin. suffix	+	3/4	0/2
B R-deletion	-	5/13	2/5
n-deletion	-	1/9	0/3
deriv. suffix -'lɾɣ ^l '	+	5/6	1/3
✓ preter. suffix weak verbs	-		
✓ prefixless past participles	+		
✓ subjunctive	+		
✓ strong/irreg. ~ weak conjug.	+		
C t-deletion	-	0/11	0/5
sandhi voicing	-	0/30	0/14
deriv. suffix -'də'	-	1/2	0/1
absence inflectional shwa	+	3/6	0/3
noun pluralization	+	5/25	1/10
✓ strong/irreg. ~ weak conjug.	-		
✓ stem V 2 & 3 sing. pres. indic.	-		
oblique form of certain pronouns	-	0/6	0/3
expletive element	+	2/2	1/1

Table 6.25 An overview of the findings regarding apparent time loss of the dialect features in the elicited speech material

Both hypotheses can be exhaustively tested on the basis of the elicited data. The structural consequences of the loss of the 'Ach-laut' allophony rule, the γ^l-weakening rule and the non-palatalization of the epenthetic /s/ in the diminutive allomorph -'skə' form the most striking pieces of evidence in favour of the hypothesis that the levelling of interdialectal variation is not necessarily identical to levelling of structural variation between the dialect and the standard language. The process of levelling out that appears to be taking place in eight other dialect features reduces the variation on the dialect - standard language axis.

The two parts of hypothesis II will be evaluated in separate subsections.

6.4.2 Testing the second hypothesis. Extralinguistic aspects

Hypothesis II says that the process of dialect levelling is gradual both in linguistic and extralinguistic respects. Before considering the structural aspects both on a global and a detailed level, we will discuss relevant extralinguistic parameters.

The first of these parameters is *time*. As a process, dialect levelling is inevitably related to time (cf. our operationalization of the notion of dialect levelling as a significant decrease in dialect use in apparent time - § 4.1 above). This apparent time approach is especially suited to test the first part of the hypothesis. In ten out of eleven cases, dialect levelling turns out to be gradual temporally, in that the degree of use of the dialect features decreases step-by-step from the Older to the Middle to the Younger age group.

The other extralinguistic parameter that is relevant to the second hypothesis is geographical *space*. In this connection we will discuss three points, which will be presented in order of decreasing globality. They concern levelling in the three dialect-geographical sets of features, a specific aspect of the interaction between time and geographical space, and the speech variety which we labelled 'regional standard language'.

Space

The parameter space is represented in our study by the areal spread of the dialect features investigated, where $A < B < C$. If we compare these sets with respect to the ratio [dialect features showing overall *levelling* / dialect features investigated] we find:

A: 4/5 (80.00 %) B: 4/7 (57.14 %) C: 3/9 (33.33 %)

from which we might conclude that dialect levelling is indeed gradual geographically. A more precise interpretation of this finding requires that the mean overall use of the dialect features in each of the three sets be related to the speakers' age groups. Therefore, we carried out an analysis of variance with geographical spread (within subjects - repeated measures) and age group (between subjects) as independent variables and the mean use of all dialect features in each set as dependent variable. The findings are presented in Tables 6.26a and b.

Given the hypothesis we are satisfied with the nature of the significant interaction effect between age group and areal spread. One specific aspect of this interaction will be considered in more detail below.

		A	B	C
O	5	63.06	75.09	78.87
M	3	36.76	66.87	75.98
Y	7	19.16	50.80	72.85
entire sample		37.32	62.11	75.48

Table 6.26a Mean use by speakers of the three age groups of the twenty-one dialect features, ordered according to areal spread

source	df	MS	F	p
between ss.				
within cells	12	1078.15		
age group	2	26914.67	24.96	.000
within ss.				
within cells	24	654.35		
areal spread dial.features	2	45556.06	69.62	.000
interaction age group				
x areal spread dial.f.	4	5381.05	8.22	.000

Table 6.26b Analysis of variance. The effects of the speakers' age groups and the areal spread of the dialect features on the elicited dialect use (both factors fixed)

We should, however, take account of the fact that the sets B and, even more so, C include LVs in linguistic components that are not represented in the A set. Hence, to exclude skewing we limit our comparison to those linguistic components that were investigated in all three sets, namely phonology and morphophonology.²⁸ The ratios [dialect features showing *levelling* / dialect features investigated] are

A: 4/5 (80.00 %) B: 1/3 (33.33 %) C: 1/4 (25.00 %)

²⁸ The features '[-s] in diminutive suffix' and 'absence of inflectional shwa' are best regarded as morpho-lexical phenomena in the sense attached to this notion by e.g. Booij (1981: 116, cf. 138): rules concerning phonological alternations which may be conditioned by one or several specific morphemes or words, by a specific grammatical feature, etc.

from which we may again conclude that dialect levelling is indeed geographically gradual. The results of the related analysis of variance with geographical spread of the LVs as within subjects factor (repeated measures) are:

		A	B	C
O	8	61.39	74.11	62.52
M	6	35.09	67.15	60.06
Y	9	17.09	60.82	58.43
entire sample		37.19	67.09	60.28

Table 6.27a Mean use by speakers of the three age groups of the phonological and morphophonological dialect features, ordered according to areal spread

The implicational pattern in the dialect use observed in Table 6.26a is partly upset in Table 6.27a. However, in the latter case there are fewer missing values. The strength of the effects of the two independent variables is the following:

source	df	MS	F	p
between ss.				
within cells	20	889.03		
age group	2	26918.01	30.28	.000
within ss.				
within cells	40	919.54		
areal spread dial.features	2	53073.40	57.72	.000
interaction age group				
x areal spread dial.f.	4	9454.73	10.28	.000

Table 6.27b Analysis of variance. The effects of the speakers' age groups and the areal spread of the dialect features on the elicited use of dialect features in the phonological and morphophonological components

Whereas overall use of the phonological and the morphophonological dialect features appears to be highest in the B set, dialect levelling still displays the predicted pattern. This supports the part of hypothesis II according to which dialect levelling is geographically gradual.

Our findings regarding the dialect features in the province of Verb morphology confirm the part of hypothesis II that says that dialect levelling is gradual also geographically in two respects. First, on a general level, all dialect features concerning Verb morphology that appear to be subject to loss are B-type features. So loss occurs in the case of the less diffused but not in the case of the more diffused dialect features. Second, on a more detailed level, the LV 'strong or irregular vs. weak conjugation' falls into two dialect-geographically and structurally distinct clusters of verbs. The deviant conjugation of one cluster of verbs distinguishes the A- and B-type Limburg dialects from the rest. That of the second occurs also in the C-type dialects. The dialect feature with the most limited areal spread (B) is undergoing loss - in contrast to the one with the larger spread, which is stable. The difference between the age group patterns in the use of the B- and the C-type dialect feature under this LV is highly significant.

The case of the [+/-cont] final segment of the derivational suffix '-lry¹' constitutes an illustration of how the levelling out of a single dialect feature may be gradual in geographical space. As was shown in § 6.3.8 above, older data in combination with data on the recent geographical distribution of the LV and the results of our analyses of the elicited material suggest that the prediction which was made by Schrijnen in 1920 ("it is inevitable that the isogloss will continue to move into a southward direction" 1920: 38 - my translation, FH) was most probably correct.

Our reconstruction of the spatial history of the feature suggests the metaphor of a wave slowly ebbing away into the direction where it came from more than a thousand years ago. However, this reconstruction is underrepresented by the data, both spatially and temporally. Following Besch (1981: 260), we therefore plead for 'Regionalstudien' to make it possible to describe changes in language use from the point of view of the dialect landscape.

Our hypothesis regarding the withdrawal of at least the isogloss demarcating the presence of [+cont] in the final segment of this suffix can be further tested diachronically on the basis of available monographical and comparative data.

Time and space

In our findings there is an interesting aspect in the interaction²⁹ between the parameters time and space. Roughly speaking, members of the Middle age group behave more like the Younger speakers with respect to the dialect features with the smallest areal spread (A-set), whereas their use of features with a wider areal spread (B-set) is more like that of the Older speakers. This is evidenced by Table 6.28 (based on Table

²⁹ This interaction is highly significant both on the most general level and in the phonological and morphophonological components only (Tables 6.26b and 6.27b).

6.26a above), which gives the differences in mean use of the A- and B-features between Older and Middle on the one hand and Middle and Younger on the other.

	A	B	C
O-M	26.30	8.22	2.89
M-Y	17.60	16.07	3.13

Table 6.28 Differences in the mean use of the features in the three dialect-geographical sets between adjacent age groups

The features with the largest geographical distribution (C-set) are hardly involved in this interaction. The nature of the interaction forms additional support in favour of the part of hypothesis II according to which dialect levelling is geographically gradual.

To the extent that it is comparable, this finding may be seen as a further specification of that by Van Hout (1989: 302) for the city dialect of Nijmegen. This author found that the knowledge of the dialect of the Middle generation (only men) was most similar to that of the Older generation. With respect to dialect use, however, the Middle generation resembled the speakers of the Younger age groups more than it did that of the Older generation. We have to be cautious with our conclusions because of the relatively small number of speakers of the Middle age group involved in the present analysis.

If we restrict the comparison to the age group patterns in the use of the eleven dialect features which appear to be in the process of being levelled out in overall use, the interaction is less clearly visible. Three out of four features in the A set conform to the pattern O-M > M-Y (the exception being dorsal fricative deletion), and two out of four features in the B set display the reverse pattern O-M < M-Y. In the B set, the prefixless past participles form a clear exception, whereas the differences O-M and M-Y are almost equal in the case of the subjunctive.

If we confine the comparison to the phonological and morphophonological phenomena (Table 6.27a above) then it appears that the members of the Middle age group behave more like the Younger speakers with respect to the dialect features with the smallest areal spread (A-set). The other two dialect-geographical sets of features (B and C) are hardly involved in the interaction.

'Regional standard language'

The dialect features in the C-set can be divided into two groups: features that may interfere in standard language production (which is then labelled 'regional standard language' - cf. § 4.4.2 above) and those that never do. The dialect features, the mean global use and the relative degree of levelling of both groups are as follows:

	+regional standard language	-regional standard language
dialect features	t-deletion sandhi voicing expletive elements	deriv. suffix -'də' absence inflect. shwa V str./irreg. ~ weak conj V stem V 2 & 3 sing. pres. noun pluralization oblique forms certain pron.
mean overall use	61.15	72.10
overall loss	1/3	2/6

Table 6.29 C-type dialect features that may and C-type dialect features that do not occur in the regional standard language; use and loss

It is quite remarkable that on the average the dialect features which are so resistant that they may interfere in standard language production occur less frequently in the elicited dialect use ($t = -2.77$ $df = 15$ $p = .014$). This may have a psychological explanation. It does not appear unlikely that by normative monitoring of some kind (Hagen 1981), features that may show up in standard language use are marked as 'incorrect' (cf. Giesbers 1989: 247), unlike features that never cause standard language production to differ from the presumably supraregional standard. This mechanism may have been at work in the elicitation sessions, because of the fact that language as such was explicitly at stake. Moreover, language production was elicited essentially via a written medium; the modalities writing and reading are associated with the standard language, as the dialect is an almost exclusively oral code.

Despite the difference in use, the proportion [dialect features showing *loss* / dialect features investigated] is equal for both groups of LVs. This finding is supported at the level of the mean overall use of the dialect features in the C-set in the three age groups. Vid. Tables 6.30a and b.

		+reg.st.l.	-reg.st.l.
O	6	68.50	72.67
M	3	53.63	78.10
Y	7	58.07	69.04

Table 6.30a Mean use by speakers of the three age groups of the dialect features in the C-set, ordered according to their occurrence (+/-) in the regional standard language

source	df	MS	F	p
between ss.				
within cells	13	1587.19		
age group	2	1617.75	1.02	.388
within ss.				
within cells	13	1115.68		
+/- reg. stand. lang.	1	12201.71	10.94	.006
interaction age group				
x +/- reg. stand. lang.	2	2062.93	1.85	.196

Table 6.30b Analysis of variance. The effects of the speakers' age groups and the dialect features' occurrence (+/-) in the regional standard language on the elicited dialect use

Indeed there appears to be no meaningful difference in dialect levelling between the features that may occur in the regional standard language and the ones which never occur in this variety. This follows from the non-significance of the interaction effect between [+/-reg.st.l.] and age group on the use of the dialect features in the C-set.

6.4.3 Testing the second hypothesis. Linguistic aspects

According to our second hypothesis, the process of dialect levelling is gradual not only in extralinguistic but also in linguistic respects. The second part of this claim can be tested on two different levels: a global level and a more detailed one. In the first part of this subsection we will limit our attention to the dialect features which are apparently in the process of being levelled out in overall use; in this connection we will not dig into structural-linguistic details. In the second part of this subsection, we will take stock of the results concerning the structural-linguistic details and we will try to formulate general statements about the structural path followed by the loss of individual dialect features.

General trends

On a general level two highly tentative conclusions may be drawn about the role of what we will call 'overarching' parameters. Despite their name, these parameters have a narrow scope. The first one concerns phonology and morphophonology, the second is morphological.

The first overarching parameter is the well-known typology of possible sound differences between linguistic systems: inventory / distribution / incidence / realization. This typical product of structuralism has been applied to dialects by Weinreich (1954), among others.³⁰ The several types concern inter-systemic differences in the total inventory of phonemes as such, differences in the distribution of phonemes or processes affecting specific phonemes over types of phonological environments or sets of (free or bound) morphemes, and systematic differences in the pronunciation of segments that may exist between languages or language varieties, respectively.

We adopt this typology not on a 'phonematic', but on a systematic-phonetic level. The fourth type (differences of realization) does not appear to be represented in our investigation. If we nevertheless decided to consider this type as well, we could describe for instance the palato-velar realization of the dorsal fricative or the uvular realization of 'r', [ʀ]. However, at present these phenomena are not of interest with respect to dialect levelling.

The other types are represented as follows:

inventory	'Ach-laut' allophony
distribution	ɣ ^l -weakening
	l-lowering
	dorsal fricative deletion
	[s] in diminutive suffix
	t-deletion
	absence inflectional shwa
incidence	R-deletion
	n-deletion
	derivational suffix -'lɾɣ ^l '
	derivational suffix -'də'

Since the LV 'sandhi voicing' does not concern any specific segment, it cannot be classified. Although the number of 'tokens' for each type is too small, especially in the first type ('inventory'), it is still interesting to note that the ratio [dialect features showing *levelling* / dialect features investigated] decreases:

inventory	1/1
distribution	4/6
incidence	1/4

It should again be stressed that this crude comparison does not allow sweeping statements about the relationship between the above typology and dialect levelling.

³⁰ Much of the critical discussion has been summarized by Petyt 1980: 18-23, 103-105, and especially 118 ff.

However, it seems legitimate to hypothesize that there is a tendency for dialect features to disappear to the degree in which they cause structural differences with other varieties. In this light, the above parameter might be fruitfully studied in relation with structural loss.

The second overarching parameter concerns the relative resistance of two types of morphological operations. Van Bree hypothesized that in processes of structural dialect loss, inflection will be more resistant than derivation. The findings of an investigation he conducted on two dialects spoken in the northeast of the Dutch language area led him to conclude that the overall picture is fairly inconsistent (Van Bree 1985b: 10, 28). In the process of *language death* affecting Dyirbal, derivation is more resistant, and hence 'stronger', than inflection (Bavin 1988: 443, paraphrasing Annette Schmidt). In connection with language contact in general, however, Moravcsik hypothesizes that no inflectional morphology will be *borrowed* before at least one derivational suffix is borrowed (Geerts 1986: 10) - in other words that inflection is 'stronger' than derivation.

In our elicited dialect use, eleven dialect features were studied which are more or less relevant to this issue:

derivation	[s] in dimin. suffix derivational suffix '-lɪç' derivational suffix '-də'
inflection	all six dialect features regarding Verb morphology absence inflectional shwa noun pluralization oblique forms of certain pronouns

The dialect features '[s] in diminutive suffix' and 'absence of the inflectional shwa' are of course partly phonological in nature. The dialect features 'derivational suffix '-lɪç'', 'derivational suffix '-də'', all dialect features regarding Verbal morphology and noun pluralization are partly lexical in nature. Finally, the dialect feature 'oblique forms of certain pronouns' partly pertains to syntax. Nevertheless, all twelve dialect features concern the form of (allo)morphemes.

We can now proceed to examine the relative degree of loss in the overall use of the features in these two types of operation. The ratio [dialect features showing *levelling* / dialect features investigated] for the two types is:

derivation	2/3
inflection	5/9

Derivation exhibits slightly more loss than inflection. It is not clear whether and to what extent this is brought about by the fact that this type contains an A-feature. As

we saw above, the A set of dialect features in general displays a higher degree of loss than the other two dialect-geographical sets of features.

All in all, the relevance of the above two overarching parameters to processes of dialect levelling cannot be convincingly investigated in the present study, but it should be kept in mind that this investigation was not designed for that purpose. Consequently, we will make no attempt to analyse the effect of these two parameters in a more precise way. This is not to say that these exercises were useless: we are now in a position to advance and operationalize fruitful hypotheses about the role of such traditional typologies in the process of dialect levelling.

In the next part of this subsection, our findings on dialect levelling will be considered from a relatively microscopic linguistic perspective. We will try to isolate trends concerning the structural path along which the loss of individual dialect features may proceed. In such an approach, testing the part of the second hypothesis which says that dialect levelling proceeds structurally gradually, can be completed as far as the elicited data are concerned.

Linguistic conditions and dimensions

We established that on the overall level 11 out of 21 dialect features studied are in the process of being levelled out. Of the 21 dialect features 15 were studied in specific linguistic conditions. The 6 LVs the use of which was not related to any (families of) linguistic conditions all concern verb morphology; three of these were found to display overall levelling.

Despite the reduced number of LVs which were studied in specific linguistic conditions, the number of LVs undergoing dialect levelling again turned out to be 11, as can be seen in the following scheme.

	number of dialect features	
	investigated	undergoing levelling
overall	21	11
in certain ling. conditions	15	11

The reason for this is the fact that three LVs (R-deletion, n-deletion and the derivational suffix *-də*'), which do not show dialect levelling on the overall level, do so in specific linguistic conditions.³¹

The fact that the LVs which do not show levelling at the overall level but do so in specific linguistic conditions are all more or less phonological phenomena³² may

³¹ As was to be expected, the opposite does not occur. It should be repeated, however, that the relevant analyses are not available for the LVs concerning verb morphology.

³² R-deletion and n-deletion are phonological rules, the form of the derivational suffix *-də*' (rather than *-tə*') is an LV of a 'morphophonological' nature.

constitute an argument in favour of the position that dialect levelling, like certain types of linguistic change (cf. Bailey 1973: 32), takes an 'etic' start before the results manifest themselves at a more 'emic' level. It may be hypothesized that in the case of the three dialect features which appear to be undergoing loss only in certain linguistic conditions, the process has *not yet* reached the overall level. The more restricted the structural domain of a dialect feature, the more difficult the correct use of that specific feature and (even more important) its acquisition, and hence the weaker its position will be. This hypothesis is in line with the conviction that in processes of language loss or death "rules become less general" (Markey 1981: 16; cf. 1986: 3).

In all, the 15 dialect features have been studied in 147 conditions. Of these 147 conditions, 48 show significant apparent time decrease. In six out of the 48 linguistic conditions displaying a significant apparent time decrease, the use of the relevant dialect feature deviates from the ideal-typical 'pattern of loss' Older > Middle > Younger. In all six cases a clear decrease (from Older to Younger) in the use of the dialect feature takes place. In 42 out of 48 cases of the levelling out of a dialect feature in a specific linguistic environment, the process is gradual in time.

More than half of the 48 conditions in which dialect levelling takes place, namely 26, occur in the A set, i.e. among those LVs with the smallest relative geographical spread. The ratios per set are:

A	26 / 37 = 70.27%
B	11 / 28 = 39.29
C	11 / 52 = 21.15

It can hardly be called surprising that the average degree of levelling per set is the mirror image of the relative use of the dialect features.

There are, however, two biases in these comparisons. First, the number of conditions in which the use of the dialect features was investigated (and hence the denominators in the ratios) gradually increases from A via B to C. This becomes evident when we compare the ratios [total number of *conditions* in which the use of the dialect features in a set was investigated / number of dialect features per set]:

A	37 / 5 = 7.40
B	28 / 3 = 9.33
C	52 / 6 = 8.67

However, there is no reason why the number of conditions in which significant apparent time decrease occurs should not increase proportionally to the number of conditions investigated.

The second locus of imbalance concerns the fact that for the A- and B-sets, *only phonological and morphophonological phenomena* are involved in the comparison.

Restricting the perspective to these two linguistic components for all three sets, the ratios are:

A	26 / 37 = 70.27%
B	11 / 28 = 39.29
C	4 / 19 = 21.05

Also when this correction has been made, dialect levelling turns out to be geographically gradual.

If we consider the question for which dialect features the linguistic dimensions bring about dialect levelling, a different pattern emerges. For the relevant dialect features, the proportion [number of dimensions motivating dialect levelling / number of linguistic dimensions investigated] is:

A	—	
B	R-deletion	2 / 5
	deriv. suffix $-\text{lr}\gamma^1$	1 / 3
C	noun pluralization	1 / 10
	expletive elements	1 / 1

So four dialect features are undergoing loss that is linguistically motivated.

A general look at the findings may cause one to suspect that there are many cases of a significant age group effect which can be interpreted as dialect levelling, but that there are only few cases where a linguistic dimension has a significant effect on the levelling process - so that linguistic factors are much less important than sociolinguistic ones. However, age group cannot be considered as a purely sociolinguistic factor; it is a non-directional, unspecific umbrella variable. Unlike each single linguistic dimension, the independent variable age group does not have any explanatory value. This implies that the various significant age group effects are not necessarily equivalent. Seen in this light, the findings acquire more of their true meaning.

Moreover, if there is no significant interaction between a given linguistic dimension and the variable age group, there is no clear difference between the age group patterns in the use of the dialect feature in the several linguistic conditions involved. With some simplification, one could say that there are two possibilities: either all linguistic conditions involved show a similar significant age group (main) effect, or none of them shows a significant age group effect. In the case of the dialect features in the A-set, especially γ^1 -weakening and dorsal fricative deletion, the first scenario holds for every linguistic dimension studied. The significant age group effects in all individual linguistic conditions invariably consists of loss. Most probably this means that, structurally, the loss of those A-type dialect features has already proceeded too far to allow different age group patterns to be observed.

6.4.4 Discussion

We conclude this chapter with some remarks of a more detailed nature. First, our findings regarding the changes which are going on within the system for noun pluralization constitute a good argument against an essential part of Trudgill's (1986) model. In his model, the notion of dialect levelling is reserved for the reduction of inter-systemic variation, whereas the intra-systemic effects of contact between dialects (including the standard) all come down to simplification.³³ In our view, levelling can be both inter- and intra-systemic in nature. Moreover, intra-systemically its effects may, but need not be (structural) simplification. The levelling in the noun pluralization system that we established in our elicited data concerns the part of morphology where the differences between the dialect and other varieties of Dutch (including the standard language) are relatively small, leaving intact both the parts of the system that are most different from other dialects and the parts that are most complicated. At a certain place within the system there even seems to be a development in the direction of more complication.

If levelling is measured by the number of conditions (environments, functions, etc.) involved, different dialect features appear to be affected in different degrees. Given the general level, this conclusion can hardly be other than platitudinous. On the level of the individual LVs, our findings are less banal. Regarding the phenomenon called Canadian Raising, Trudgill (1986: 155) concludes "that there is a hierarchy of environments, with the change occurring first in the most favoured environment before spreading to others". This finding appears to be paralleled by the patterns of levelling of some of our dialect features; in these cases there is a hierarchy of environments, with the loss occurring first in the least favoured environment, etc. In this connection, especially syllable structure proved to be interesting in three respects.

(1) As we established, the very existence of the rules for t-deletion and sandhi voicing, among others, is motivated by aspects of syllable structure.

(2) An issue we did not as such discuss is the variation in the use of each of the 21 dialect features - independently of the speakers' age groups. In our analyses the sample variation in the use of the rule for t-deletion has (among other things) been related to the [+/-cont] nature of the preceding obstruent, i.e. to the question whether a fricative or a stop precedes. According to some of those who have investigated this issue³⁴, fricatives have a higher sonority value than stops. If this is true, a coda formed by a fricative followed by a [t] is slightly more highly valued than one consisting of a stop followed by [t], which is itself a stop. Hence, one would expect t-deletion to occur more often after a stop than after a fricative. The reverse appears

³³ Cf. our summary and discussion of Trudgill's model in § 1.3.5 above.

³⁴ E.g. Bloomfield 1933: 120-21; Kiparsky 1979: 432; Booij 1981: 89; Tropic 1983-I: 214; Scheutz 1985a: 94; Van der Hulst & Smith 1985: 40; and Wiese 1986: 10 - cf. § 2.4.3 above.

to be the case in our data, however.³⁵ To the extent that this is an appropriate test for the claim that fricatives have a higher sonority value than plosives, this claim must be rejected at least for these speakers of the Rimbürg dialect.

(3) Most importantly, the structural path of the levelling process appears to be determined to a significant degree by syllable structure in the case of the R-deletion rule and the dialectal derivational suffix *-lɪɣ^l*.

We have tried to avoid the "drawback of traditional dialectology", that "it tended to treat linguistic forms in isolation rather than as parts of systems or structures" (Chambers & Trudgill 1980: 38, cf. also p. 126). First of all, structural coherence between LVs was one of the four criteria for their selection. On a descriptive level, we pointed out some of the structural interrelations between several dialect features (e.g. between the 'Ach-laut' allophony rule and the rule for γ^l -weakening, or between sandhi voicing, *-lɪɣ^l* and γ^l -weakening, or between sandhi voicing and the Limburg derivational suffix *-də*). Far more important is the fact that certain dialect features are not only structurally related, but probably also in their patterns of loss. Findings here seem to indicate that this is the case with the dialect equivalents of the several standard language functions of *er* (§ 6.3.20 above) as well as with the 'Ach-laut' allophony rule, dorsal fricative deletion, and R-deletion. Both the 'Ach-laut' allophony rule, which operates after back vowels, and the rule for dorsal fricative deletion are undergoing loss in the overall use. The rule for R-deletion, which has most probably been lexicalized, only exhibits loss in certain linguistic conditions; the condition 'after back vowels' forms part of one of the (two) dimensions which appear to affect the process significantly. The use of the rule for dorsal fricative deletion also shows more loss after back vowels - but there the dimension of which this condition forms part does not have a clear impact on the loss.

Although our study has hardly even been exploratory in this respect, we nevertheless conclude that the intricacies of the structural relations between dialect features may manifest themselves in processes of dialect levelling. This adds an interesting dimension to the general finding that dialect levelling is structurally gradual as well.

³⁵ Witness the sample means for t-deletion after a stop (30.30) and after a fricative (52.94; $t=-7.90$ $df=26$ $p=.000$). The same proportion holds for Van Hout's 1989: 102, 106 word-list data regarding t-deletion in the urban dialect of Nijmegen.

Chapter 7

Dialect levelling and structural dependence between linguistic variables

7.1 Introduction

In the preceding chapter we paid attention to the levelling out of fourteen of the twenty-one dialect features studied in the elicited speech material. In all cases attention was limited to single dialect features, i.e. every LV was considered separately.

The data to which we applied the quantitative analyses for each LV consisted of two lists: one containing words in which only one of the selected LVs was present, and another with words in which two (and sometimes even more) LVs occur. In the vast majority of the words in the second list, the LVs were not structurally dependent on one another. Put differently, in the words in the second list the presence or absence of the dialect feature in one LV did not in any way structurally influence the presence or absence of the dialect feature in the other LV(s). This type of relationship (or non-relationship, for that matter) can be characterized as mutual independence. For example, in the Rimburg dialect there are four equally well-formed variants of the word for 'enough', depending on the application or non-application of the rules for γ^1 -weakening (cf. § 5.3.2 above) and 'Ach-laut' allophony (§ 5.3.1):

- (1) $j\acute{e}n\acute{o}^1x$
 $j\acute{e}n\acute{o}^1\zeta$
 $\gamma^1j\acute{e}n\acute{o}^1x$
 $\gamma^1j\acute{e}n\acute{o}^1\zeta$ st.l. *genoeg*

A similar relationship may hold between e.g. t-deletion (§ 5.3.14) and sandhi voicing (§ 5.3.15), as can be seen in the several possible realizations of e.g.

- (2) $/d\acute{o}^{-\partial} \#\# l\acute{e}^1pt\#\# m\acute{e}/$ st.l. *daar loopt iemand*
lit. 'there walks somebody'
do^{-∂} l\acute{e}^1b m\acute{e} 'somebody is walking there'
l\acute{e}^1p
l\acute{e}^1bd
l\acute{e}^1pt

As in other 'deep' Limburg dialects, in the Rimburg dialect other types of relationship between several features also turn out to be possible. These will form the topic of this chapter.

In this short chapter we present what is intended as a first exploration of a new approach. It can best be consumed as a 'dessert' after the main course which was served in Ch. 6. The chapters 8 to 11 will make up another meal.

7.2 Two types of structural dependence between dialect features and how they were studied

Given the grammar of the Rimbürg dialect and the set of 21 of its features we selected for analysis, three main types of structural relationship between dialect features can be observed. The type illustrated above we baptized mutual independence. Realizations of words that were elicited in which several LVs are mutually independent formed part of the data base for the quantitative analyses for each of the LVs involved. The findings from these analyses were presented in the preceding chapter.

The other two types may be informally labelled disjunction (EITHER x OR y, in logic called 'exclusive *or*') and conditionality (IF x THEN y, in logic called 'strong implication'); they can be compared to the types of rule ordering that are usually referred to as 'bleeding' and 'feeding', respectively. Two dialect features which can enter into a disjunction relationship are strong or irregular ~ weak conjugation and -'ət' rather than -'də' as preterite suffix (see §§ 5.3.13 and 5.3.9). An example:

- (3) he-f-ə infin.
hoʃ preter.
he-f-ət preter. st.l. *heette*
 ‘was called’ 3 sing.

Between the dialect features -'æt' rather than -'də' as preterite suffix and γ^1 -weakening, a relationship of the type may hold that we referred to as conditionality in e.g.

- [illegible]

The fact that γ^1 -weakening has applied implies that the preterite suffix has the form $-\text{'}\acute{\text{e}}\text{'}$ ($\text{w}\acute{\text{œ}}^1\text{r}^{\text{'}}\text{\text{S}}\gamma^1\text{'}\acute{\text{e}}\text{'}$). Had this not been the case (i.e. had the preterite form $\text{w}\acute{\text{œ}}^1\text{r}^{\text{'}}\text{\text{S}}\gamma^1\text{'}\text{S}\text{d}\acute{\text{e}}$ been used), then γ^1 -weakening would not have been relevant at all.

What we labelled 'EITHER x OR y' denotes a disjunction relationship. An alternative way of expressing this kind of relationship is IF x THEN NOT y. This also reveals a fundamental difference between the two types of relationship: disjunction relationships are reciprocal, whereas conditional relationships are directional.

Dialect use, as it turns out, often consist of more than simply using certain features. In a dialect like the one spoken in Rimbürg, which is structurally very different from the standard language and from other, especially East-Limbürg dialects, almost every word may show two, three or even more dialect features. The latter obviously also include features of the set we selected for the present investigation. The examples in (3) and (4) above serve to demonstrate that when two or more dialect features are relevant for the realization of a particular word, they can be mutually related.

We would like to underline the fact that here we are not dealing with covariation. Covariation is a statistic relation which can vary between -1 and $+1$ (except 0). In the case of covariation, the chances that, for example, dialect features of different LV_m are used are mutually dependent. The occurrence of more dialect features of LV_m is often accompanied by the occurrence of more (positive covariation) or less (negative covariation) dialect features of LV_n . Generally speaking, for each language variety (e.g. style level) for each pair of, say, dialect features the covariation can be determined.

In his study of the Spanish dialect spoken in Uceda (Cantabria, Spain), Holmquist (1988: 101-102) touches on what must be seen as an instance of a near-conditional relationship between two dialectal rules. If a word-final mid vowel is raised, i.e. if $/o/ \rightarrow [u]$ or $/e/ \rightarrow [i]$, then usually a metaphony rule operates in the tonic vowel, i.e. the vowel in the syllable bearing word stress. This relationship is, however, statistic in nature, witness the fact that sometimes (in at most 2.5 % of the cases) metaphony of the tonic vowel takes place even if word-final $/o/$ is realized as $[o]$, as it is in standard Castilian Spanish. In short, the situation described by Holmquist is a case of covariation which approaches $+1$, cooccurrence of the two rules. Some of the problems regarding covariation and stylistic cooccurrence of features of a 'deep' dialect of German (the Middle-Bavarian dialect of Ulrichsberg, Austria) are considered in Scheutz (1985a: 253-60, 1985b: 251-58).

In certain branches of sociolinguistics and creolistics scalogram analysis is sometimes used to investigate whether and to what extent tendential, statistic implicational relationships (i.e. not 'strong' ones) exist between LVs. In order to avoid confusion with this type of relationship the term conditionality will be used in our case.

Here we are concerned with relationships of a structural rather than a statistic nature. More specifically, we are dealing with types of dependence between rules and/or elements. A part of the elicited dialect use consisted of words in which several dialectal rules or elements are related to each other. Detailed linguistic examination of these words revealed that there are only two types of dependence relationships, namely the ones mentioned above.

For the two types of structural dependence, the possible combinations of two dialect features within one word can in principle be expressed in pairs of '1' (pre-

sence) and '0' (absence of the dialect feature). The number of possible pairs is limited. For the type 'disjunction' the possible combinations of dialect features are

(1,0) (0,1) (0,0)

For the type 'conditionality', the possible combinations are

(1,1) (1,0) (0,0)

In these combinations '0' can mean two things: 1. the dialect feature concerned cannot be applied (the zeros are underscored for expository purposes), or 2. the feature could have been applied but was not applied. We will return to this below.

Thus each realization of a word in which two features are related to each other can be characterized as a specific combination of two scores. In each single case, the realization types can be ordered according to their degree of dialectality. Needless to add, on a scale of dialectality realizations of the type (0,0), or (0,0) for that matter, score lowest.

For each of the two types of dependence between several dialect features in the realization of a word, a few cases were analysed in the elicited speech material. The several realization types that these dependence relations make possible, along with occasional other realization types, were studied in apparent time. This approach thus provides an additional perspective on the process of dialect levelling. The findings were interpreted in the light of the hypotheses which form the basis of the whole research project; this part of the elicited dialect use also makes it possible to test hypotheses I and II.

As was already hinted at, the common practice of investigating isolated LVs constitutes an atomistic approach to dialect use. This is especially true for dialects that are very different from the standard language, like the ones involved in the present study. Moreover, it should be noted that the choice of the LV as a unit of analysis is rather arbitrary. This might be a good reason for broadening the research scope so as to include analyses that transcend the level of the individual LV. A third argument against limiting research to LVs in isolation is that LVs do not seem to play a significant role in the consciousness of the average speaker - to the extent that they exist at all in his consciousness. As a matter of fact, most of the observations our informants made about the object of the present research concerned the realization of individual words.

Although the approach we introduce here does take realizations of single words as input, the perspective is not limited to lexical phenomena. Apart from morpho-phonological and morphological phenomena, the analyses will involve postlexical rules. These concern rules operating at word edges such as t-deletion and sandhi voicing. Put differently, the word rather than the LV serves as the unit of analysis.

In this chapter we will pay attention to the two types of local dependence relation

- to the extent that they involve dialect features in the set we selected for investigation, and
- to the extent that our elicited material contains realizations of relevant words.

We will also pay attention to combinations of the two types of dependence relationship and to combinations in which also independence relations are involved.

The type of mutual dependence between dialect features that we informally referred to as a disjunction relationship was studied in two different cases, and the type of mutual dependence we labelled conditionality in seven cases. Finally, four cases were investigated which constitute combinations of main types. In all, ten different dialect features are involved in these thirteen cases.

The analyses were based on the phonetic transcriptions of the realizations of these words. The number of word realizations per case is equal for all speakers; between cases it ranges from 1 to 15. The relevant output of all speakers is therefore completely comparable. In the majority of cases there are several observations per speaker. The total number of words for the 13 cases is 55; on average we thus obtained 4.23 realizations per single case per speaker.

7.3 Disjunction relationships

To begin with, we will consider the first of our two cases of disjunction in detail. As may be recollected from § 5.3.10 above, there is a closed group of seven semantically perfective verbs with a prefixless past participle. For each of these participles we obtained a realization. Two of them were even elicited twice. So, for this case we have in principle 9 word realizations per speaker. A disjunction relationship turns out to exist between the application of the B-type dialect feature 'prefixless past participles' and the A-type dialect rule γ^1 -weakening, since the past participle prefix has the form ' $\gamma^1\text{'}$ '. Of course, using the prefixless variant of the past participle bleeds γ^1 -weakening. For instance, in the dialect equivalents of standard Dutch *gekomen*, 'come' past part., the possible realizations are

- | | | |
|-----|---|---------|
| (5) | $\text{ko:}^{\text{a}}\text{m}\text{ə}$ | = (1,0) |
| | $\text{j}\text{ə}\text{ko:}^{\text{a}}\text{m}\text{ə}$ | = (0,1) |
| | $\gamma^1\text{ə}\text{ko:}^{\text{a}}\text{m}\text{ə}$ | = (0,0) |

In the first two types of realization '0' indicates that the feature concerned cannot be applied - for the simple reason that the other feature was chosen. As far as phonology and morphology are concerned, the prefix in the last type is essentially identical to the standard variant.

The distribution of these three realization types over the three age groups in our sample of speakers is:

	Older	Middle	Younger	total
(1,0)	53	22	0	75
(0,1)	7	6	1	14
(0,0)	15	52	76	143
total	75	80	77	232

Table 7.1 The use of the three types of realization in the case of the disjunction relationship between the dialect features 'prefixless past participles' and γ^1 -weakening in the three age groups

As may be clear there were 6 (Older) + 1 (Middle) + 4 (Younger) = 11 'missing values'. The chi square¹ is 102.47 df=4 $p < .001$. The figures in Table 7.1 show that in the relevant participle forms

- the 'deepest' dialect variant (1,0) is used most frequently by the Older speakers, but never by the Younger ones, whereas the members of the Middle age group score in between;
- realizations of the type (0,1), i.e. the non-use of the prefixless dialect variant of the past participle and the application of γ^1 -weakening in the prefix, does not play the role of a transition form in the levelling process. On the contrary, its use is decreasing as well, so
- *both* dialect features are in the process of being lost, although loss is most clearly manifest in the feature 'prefixless past participles'. The apparent time increase in the use of forms of the type (0,0) and especially the fact that 76 out of 77 realizations of speakers of the Younger age group are of this type strongly support this conclusion.

It should be pointed out, however, that in contrast to 'prefixless past participles' the feature γ^1 -weakening is not a discrete, but rather a continuous variable. From the 11 'missing values', 7 indeed had a form in between (0,1) and (0,0): in these realizations the prefix was present and the γ^1 -weakening rule seemed to have been applied only partly, so to speak, as the first segment of the suffix was something in between [γ^1] and [j].

To summarize, the age group pattern in the realization of past participles of this group exhibits the levelling out of each of the two rules which generate ('deep') dialect variants. As far as these dialect features are concerned, we have thus reached the insight that one does not take over from the other in the course of the process of

¹ Important conditions for the application of the chi square test are: the matrix should contain the raw scores, there should be one observation per subject, and for each single cell in the matrix the expected frequency must be larger than 5. The present case violates the second condition - although the aggregation of data for individual subjects is common practice in sociolinguistics. Still, in this respect our approach leaves room for improvement.

dialect levelling. More generally, this approach improves our knowledge of the relation between LVs in the levelling process, since it extends beyond the level of individual LVs.

The second case of disjunctive ordering concerns the A-feature dorsal fricative deletion (§ 5.3.4) and the C-feature t-deletion. As was pointed out in § 5.3.14, in lexical morphemes with a final rhyme of the structure /Vowel ç t/, dorsal fricative deletion operates first in the A-type Limburg dialects, blocking the more general rule for word-final t-deletion after obstruents, which applies elsewhere. Let us try to establish whether words of the relevant structure exhibit dialect levelling and, if so, whether the linguistically and areally more constrained rule gives way to the more general one.

The possible realizations of e.g. the dialect equivalent of standard Dutch *slecht*, 'bad(ly)', are

- | | | |
|-----|--------------------|---------|
| (6) | ʃle ^ə t | = (1,0) |
| | ʃleç | = (0,1) |
| | ʃleçt | = (0,0) |

As far as these two rules are concerned, (0,0) is identical to the standard variant. For this case we elicited four realizations per speaker.

The use of the geographically and phonologically much more restricted rule for dorsal fricative deletion - which results in realizations of the type (1,0) can hardly be said to be decreasing. This type was used 35 times by the Older speakers and no less than 32 times by the members of the Younger age group. There is a certain increase in the use of the (0,1) type: from 0 (Older) via 3 (Middle) to 5 (Younger speakers). The standard variant (0,0) was not used at all. Except the three in (6), no other forms were used. The little 'leak' from the A-type (1,0) to the areally more widespread B-type (0,1) is statistically not significant ($\chi^2=4.90$ df=4).

7.4 Relationships of conditionality

Conditionality relationships between two dialect features within one word were studied in seven cases. The first case to be considered here concerns the B-feature '-lɾɣ^l' (-'ly', see § 5.3.8) and the A-feature γ^l -weakening. Since / γ^l / only occurs in syllable onsets, the suffix '-lɾɣ^l' must be followed by a shwa suffix; it must therefore be part of a fully inflected adjective. In our elicited dialect use this occurs five times per speaker. The possible realizations are²

² The quality of the vowel in the derivational suffix was not taken into consideration.

- (7) $lijə$ = (1,1)
 $li\gamma^1ə$ = (1,0)
 $likə$ = (0,0)

(0,0) is the C-type annex standard variant.

The distribution of these three realizations over the three age groups in our sample is:

	Older	Middle	Younger	total
(1,1)	18	2	1	21
(1,0)	16	15	7	38
(0,0)	3	20	35	58
total	37	37	43	117

Table 7.2 The use of the three types of realization in the case of the conditionality relationship between the dialectal derivational suffix '- $li\gamma^1$ ' and γ^1 -weakening in the three age groups

with $\chi^2=55.82$ $df=4$ $p<.001$. The figures in Table 7.2 suggest that there is a change going on from (1,1) via (1,0) to (0,0). Variants of the most typically dialectal type (1,1) are used almost exclusively by Older speakers, and the dialect variant in which only the first feature is present seems to be disappearing as well, albeit at a slower speed. The standard variants are found most often with the Younger speakers. Of the 18 'missing values'

- 13 realizations (Older 8 + Middle 4 + Younger 1) had a $/\gamma^1/$ that was only partly weakened to [j];
- 2 (produced by one speaker of the Middle age group) had a [g], which is phonetically half-way between $/\gamma^1/$ and $/k/$, in that it shares the feature [+voice] with $/\gamma^1/$ and the feature [-cont] with $/k/$;
- 2 (produced by speakers of the Middle age group) had the form [liçə], which is phonetically in between (1,0) and (0,0) in that the final segment of the derivational suffix is a fricative (as in the first dialect feature), but voiceless (as if the first dialect feature was not applied). We will return to this in § 7.5.

The fact that the loss of the areally most limited rule clearly proceeds faster than that of the areally less limited feature on which it is parasitic in this case lends support to the hypothesis according to which dialect levelling is geographically gradual. The use of structurally intermediate forms suggests that the levelling process is also linguistically gradual.

Another case of conditional ordering concerns the B-feature 'V preterite suffix of weak verbs' and the A-feature γ^1 -weakening - as in (4) above. This was investigated only in the dialect equivalent of the standard verb form *verzorgde*, 'took care' 1 or 3 sing. The possible realizations are

- (8) $v\acute{e}rZ\acute{e}R^3j\acute{e}t$ = (1,1)
 $v\acute{e}rZ\acute{e}R^3\gamma^1\acute{e}t$ = (1,0)
 $v\acute{e}rZ\acute{e}R^3\gamma^1d\acute{e}$ = (0,0)

Again, (0,0) is the C-type annex standard variant.

In our sample of speakers, no clear or significant realization type x age group pattern emerged.

The same holds for the conditional relationship between the B-feature 'strong or irregular ~ weak conjugation' and the A-feature dorsal fricative deletion in the dialect equivalent of the standard verb form *legde*, 'laid, put down' preter. 1 & 3 sing., 2 plur. In the standard language this verb is invariably weak. In the dialect the several possible realizations are

- (9) $la\cdot t$ = (1,1)
 la_x / la_ζ = (1,0)
 $leg\acute{e}t$ = (0,0)

The use of the 'deepest' variant (1,1) is decreasing, but there is no age group pattern in the use of the other two variants. The overall apparent time pattern is not statistically significant either.

The fourth case of a conditional relationship between two dialect features concerns the rule for final t-deletion and the A-feature [s] in diminutive suffix after velar consonants (§ 5.3.5). As far as stops are concerned, the only t-preceding velar which is relevant in connection with the other dialect feature is /k/. Since the incidence of relevant³ words in the dialect is very small, our investigation of this case was limited to preceding fricatives. These are /ç/ and its allophone /x/, but as we explained in § 6.3.5 in diminutives both surface as [ç].

The possible realizations of the dialect equivalent of e.g. standard Dutch *aanrechtje*, 'draining board-DIM' are

- (10) $a\cdot r\acute{e}\zeta sk\acute{e}$ = (1,1)
 $a\cdot r\acute{e}\zeta \zeta k\acute{e}$ = (1,0)
 $a\cdot r\acute{e}\zeta /t/j\acute{e}$ = (0,0)

³ Excluding the group of about 20 loanwords, which, as 'learned' forms, are hardly used in the dialect.

The allomorph of the diminutive suffix shows whether 'deep' lexical t-deletion has taken place. Also in the dialect the '-jə' allomorph can occur after a phonetically t-less root; in that case the deletion rule operated later. Put differently, if the '-jə' allomorph is selected, the /t/ must have been present at least until the level at which the allomorph is selected. As far as the relevant two LVs are concerned, (0,0) is identical to the standard type.

For this case we elicited three realizations per speaker. Variants of the (0,0) type were used only three times, and only by speakers of the Middle age group. Speakers of the Older age group use A-type variants (1,1) and the B-type, hence more widespread, variants (1,0) equally, but the members of the Middle and Younger age groups almost exclusively use (1,0). This realization type x age group pattern is highly significant ($\chi^2=22.61$ df=4 $p<.001$).

There are, however, 33 missing values. Of these

- fourteen not only show t-deletion, but also deletion of the preceding fricative /ç/ or /x/; in none of the cases does the root vowel show compensatory lengthening. An example is [a·rɛ]kə]. The age group distribution (Older 2 + Middle 5 + Younger 7) suggests a recent development. In no more than 1 out of these 14 realizations was the A-feature used⁴, all other realizations show the palatal /j/ - again a B-type realization;

- eighteen consist of the standard variant both of the simplex and of the diminutive suffix. As far as the simplex is concerned, this is evident from the phonetic presence of the /n/ in the case of the word in (10), for example. Of these 18 'missing values' 14 showed t-deletion. In this respect there are hardly any differences between the three age groups.

- the remaining one is in between (1,1) and (1,0), in that the /s/ was partly palatalized.

In short, in this case levelling clearly affects cross-dialectal variation, but hardly variation on the dialect - standard language dimension.

Another case of a local conditionality relationship between two rules concerns the C-features absence of inflectional shwa and sandhi voicing - as application of the former rule is automatically followed by final devoicing. The possible realizations of e.g. standard Dutch *lieve dieren*, 'dear animals', are

- | | | |
|------|------------|---------|
| (11) | lev de:ʔRə | = (1,1) |
| | lef | = (1,0) |
| | levə | = (0,0) |

⁴ This one form was produced by a speaker of the Older age group.

As far as the relevant LVs are concerned, the latter type of realization is identical to the standard variant. For this case two realizations were elicited per speaker; in both cases the second word had /d/ as its initial segment.

As far as connected speech realizations are concerned, the distribution of the three types of realization over the three age groups in our sample was:

	Older	Middle	Younger	total
(1,1)	8	15	9	32
(1,0)	7	3	0	10
(0,0)	1	0	8	9
total	16	18	17	51

Table 7.3 The use of the three types of realization in the case of the conditionality relationship between 'absence of inflectional shwa' and sandhi voicing in the three age groups

with $\chi^2=22.75$ $df=4$ $p<.001$. It is remarkable that the Older speakers use (1,1) and (1,0) variants in equal proportions, members of the Middle age group predominantly use (1,1), and the Younger speakers fluctuate between (1,1) and (0,0). Looking at the results from another angle, we see that variants of the type (1,1) are used most often by members of the Middle age group, the (1,0) ones by the Older speakers and (0,0) by members of the Younger age group. Nonetheless, no clear realization type x age group pattern emerges.

These findings cannot be interpreted as an instance of dialect levelling. After all, sandhi voicing before a voiced stop is not very typical of Limburg dialects - as opposed to sandhi voicing before a vowel (cf. § 5.3.15 above).

Finally, two cases were studied which are a bit more complicated in that they consist of three rather than two steps. In both cases the relationship may be informally characterized as

(12) IF 1. resyllabification *and* 2. sandhi voicing THEN γ^1 -weakening.

The first case concerns compound words like /dœ¹_Rç# e:/, 'confused'. The realization types are:

- (13) dœ¹_Rç \$ je: = (1,1)
 dœ¹_Rç \$ γ^1 e: = (1,0)
 dœ¹_Rçç \$?e: = (0,0)

Per speaker 2 realizations were investigated.

The realization type x age group pattern, which is highly significant ($\chi^2=22.31$ df=4 $p<.001$), is clear-cut: variants of the type (0,0) were used only 4 out of 49 times, and all other realizations show a dramatic apparent time shift from (1,1) to (1,0), i.e. from the A- to the C-type. From the 5 missing values 4 are intermediate forms between (1,1) and (1,0) in that the γ^1 -weakening rule was applied only partly, as it were.

The findings for this specific case unmistakably attest levelling on the cross-dialectal, but not in the dialect - standard axis. For some speakers this process may be structurally gradual.

In the second case of the conditional relationship between resyllabification *and* sandhi voicing on the one hand and γ^1 -weakening on the other, for which 15 realizations were investigated per speaker, a boundary between two independent words is involved. For instance, the dialect equivalent of standard Dutch *zich ook*, 'himself too', can be realized as:

- | | | |
|------|---|---------|
| (14) | $z\dot{\imath}j\dot{\varsigma}^1x$ | = (1,1) |
| | $z\dot{\imath}\gamma^1\dot{\varsigma}^1x$ | = (1,0) |
| | $z\dot{\imath}\dot{\varsigma} \ \$ \ ?\dot{\varsigma}^1x$ | = (0,0) |

For the relevant LVs the type (0,0) is identical to the standard variant. Although a word boundary occurs, we are interested in the realization of only one of the words involved, namely the first of the two, and specifically its last segment.

The realization type x age group pattern is again highly significant ($\chi^2=60.10$ df=4 $p<.001$). Variants of the type (1,1) were used no more than 22 times, 21 times of which by Older speakers. The type (1,0) shows a gradual apparent time increase from 30 (Older) to 75 (Younger speakers), and (0,0) attracts most scores overall. For speakers of the Older and Middle age groups the latter type constituted the largest category. This may be due to the restricted compatibility of our elicitation techniques, in which reading was important, with connected speech phenomena. Of the 60 missing values 22 (Older 16 + Middle 5 + Younger 1) were in between (1,1) and (1,0) in that $/\gamma^1/$ was only partly weakened.

In this case the levelling takes place on both the cross-dialectal and the dialect - standard dimension. Here, too, the data suggest that the process may be structurally gradual.

7.5 Combinations of types of relationships

Four cases were studied of combinations of the three types of relationship between dialect features within one word: mutual independence, disjunction and conditionality. The first one,

- (15) IF 'strong or irregular ~ weak conjugation'
THEN EITHER dorsal fricative deletion OR t-deletion

is a mixture of conditionality and disjunction dependences. It concerns the dialect equivalent of the standard verb form *legde*, 'laid, put down', preter. 1 & 3 sing. This item has been studied already as a case of conditional ordering.⁵ We now broaden the scope so that every relevant dialect feature involved is considered. On the basis of this more refined analysis, the four 'missing values' can also be assigned to a realization type. The possible realization types are, from least to most standard-like:

- | | | |
|------|--|-----------|
| (16) | la-t | = (1,1,0) |
| | lax / laç | = (1,0,1) |
| | any weak form (incl. standard variant) | = (0,0,0) |

Although, again, there appears to be a decrease in the use of the 'deepest' variant (1,1,0), there is no demonstrable age group pattern in the use of the other two variants. Overall, no clear, statistically significant realization type x age group pattern emerges.

Also in the second 'mixed' case three dialect features are involved. Another similarity with the preceding case is the fact that conditionality and disjunction relationships are involved (which is different from the case above, where the order was the opposite), vid.

- (17) EITHER dorsal fricative deletion
OR IF t-deletion THEN '[s] in diminutive suffix'

The possible realization types of e.g. *nichtje*, 'niece-DIM' are

- | | | |
|------|----------------------|-----------|
| (18) | ni: ^ə tjə | = (1,0,0) |
| | nɪçskə | = (0,1,1) |
| | nɪçʃkə | = (0,1,0) |

⁵ Namely IF strong or irregular ~ weak conjugation THEN dorsal fricative deletion - cf. (9) in § 7.4 above.

The type (0,0,0) is the standard variant, [nɪtjə] - although it is not at all uncommon for the [t] following an obstruent to be deleted before the diminutive suffix in the standard language, hence [nɪtjə]. For this case the elicited material contained three word realizations per speaker. The realization type x age group pattern in our sample turns out to be significant ($\chi^2=13.22$ df=4 $p<.025$) and comes down to a shift from the 'deepest' A-variants (1,0,0) to the dialect-geographically less specific B-type (0,1,0). Older speakers use the 'deepest' A-variant most, the B-variant is used mainly by the Younger ones, with speakers of the Middle age group scoring in both categories, but somewhat higher in the latter. The variant type (0,1,1) is used relatively very little. There were eighteen 'missing values'. Of these

- three were standard forms, i.e. of the type (0,0,0)
- seven were standard forms as far as the suffix is concerned, but not as far as the simplex is concerned, because of the application of the t-deletion rule (which must therefore have operated later in the derivation)
- one is in between the two latter types, in that the /t/ was only partly released, so that t-deletion was applied incompletely, so to speak.

The levelling which occurs in this case consists of a shift of the A-type towards the B-type variant; in other words, the areally restricted variant is being given up in favour of the areally more widely dispersed dialect variant.

Finally, two cases were studied of intertwining of the main types conditionality and mutual independence, vid.

(19) IF 1. -'lrɣ¹' and 2. sandhi voicing THEN ɣ¹-weakening.

In the first case, a morpheme boundary is involved. For /ɣ¹/ to be realized as [ɣ¹], the suffix must be followed by a shwa suffix. It must therefore be part of a fully inflected adjective - in the standard language the adjective then ends in '-lijke'. Per speaker we elicited five realizations of adjectives with this morphological structure.

This issue was analysed already as a case of conditional ordering.⁶ We now widen the perspective such that the 'missing values' can be assigned to a realization type as well. This implies that the range of possible realization types must be extended with the combination (1,1,0.5). This somewhat peculiar indication is used to refer to realizations in which the /ɣ¹/ is only partially weakened (cf. § 4.5.3), which occurred 13 times in this section of the elicited speech. Another important extension concerns the condition: the weakening of /ɣ¹/ depends not only on the use of the dialectal form of the derivational suffix -'lrɣ¹', but also on the value for voicing of the fricative. The use of the dialectal suffix -'lrɣ¹' and 'voicing' (or rather: the non-application of final devoicing if no word boundary occurs) turn out to be mutually independent,

⁶ Namely IF -'lrɣ¹' THEN ɣ¹-weakening - cf. (7) in § 7.4 above.

however. This second extension of the analysis enables us to include the other 'missing values'.⁷ Given this constellation:

(20) < (-'lɾɣ^l') ('voicing') > < γ^l-weakening >

the possible realization types are, from least to most standard-like:

(21) lɿə = (1,1,1)
 lɿɣ^l,ə = (1,1,0.5)
 lɿɣ^lə = (1,1,0)
 lɿçə = (1,0,0)
 lɿgə = (0,1,0)
 lɿkə = (0,0,0)

(0,0,0) is the standard variant, which is identical to the C-type variant. The distribution of these several realizations over the three age groups in our sample was:

	Older	Middle	Younger	total
(1,1,1)	18	2	1	21
(1,1,0.5)	8	4	1	13
(1,1,0)	16	15	7	38
(1,0,0)	0	2	0	2
(0,1,0)	0	2	0	2
(0,0,0)	3	20	35	58
total	45	45	44	134

Table 7.4 The use of six types of realization in the case of the conditionality x mutual independence relationship between -'lɾɣ^l', 'voicing' and γ^l-weakening before inflectional shwa in the three age groups

A shift is apparently taking place into the direction of the standard variant ($\chi^2=70.07$ df=10 $p<.001$). The use of (entirely or partly) weakened forms of the dialectal derivational suffix, as well as the use of the dialectal form of the suffix as such, is decreasing in favour of the use of the C-type annex standard variant. The types [lɿçə] and [lɿgə] constitute interesting structurally intermediate forms. The fact that they were used by Middle but not by Younger age group speakers seems to suggest that in the future they will play no role in the levelling process.

⁷ One observation was really lacking.

The last case is even more complicated. Here four rather than three steps are involved:

- (22) IF 1. $-\text{lr}\gamma^1$ and 2. IF resyllabification THEN sandhi voicing
THEN γ^1 -weakening.

This ordering makes it possible for the final segment of the dialect variant of the derivational suffix to surface as /j/ before a word boundary followed by a vowel, as occurs in the 'deepest' A-type Limburg dialects in e.g.

- (23) $\text{naty}:\text{rli}\gamma^1\text{x}$ < / $\text{naty}:\text{r-li}\zeta$ ## $\gamma^1\zeta$ /
natuurlijk ook, 'of course also'

The possible realization types are, from least to most standard-like:⁸

- | | |
|------------------------|-----------|
| (24) lij ## V | = (1,1,1) |
| $\text{lr}\gamma^1$ | = (1,1,0) |
| $\text{li}\zeta$ | = (1,0,0) |
| $\text{li}\gamma$ | = (0,1,0) |
| lik | = (0,0,0) |

Again, (0,0,0) is the C-type annex standard variant of the inflected form of the suffix.

For this specific case we obtained three realizations per speaker. The distribution of the five types of realization over the three age groups studied is given in Table 7.5.

Remarkably, the forms [lij] and [lr γ^1] were not used at all. This is most probably due to the fact that the elicitation techniques (essentially reading) were well-nigh incompatible with the connected speech nature of these specific forms. The relatively high number of 'missing values' can be explained in the same way: quite often a pause occurred between the derivational suffix and the following word.

Still, the results of the chi square measurement⁹ justify the assumption that there may be a change going on in the use of the remaining three realization types, namely a shift from the fricative variant (B-type) to plosive forms. So it appears that the C-type annex standard language variant is gaining ground.

⁸ The second condition 'IF resyllabification THEN sandhi voicing' was analysed as *one* single step. A score '1' in the second position therefore means that resyllabification and sandhi voicing both took place.

⁹ Namely $\chi^2=17.65$ df=8 p=.025. Since all cells in the two top rows have expected frequencies of less than 5, chi square was recomputed for the remaining three rows. The outcomes are $\chi^2=20.20$ df=4 p<.001.

In connection with the latter, it should finally be pointed out that in this case, in contrast to the preceding one, the variant [lɪg] results from assimilation and should therefore not be interpreted as a structurally intermediate form.

	Older	Middle	Younger	total
(1,1,1)	0	0	0	0
(1,1,0)	0	0	0	0
(1,0,0)	8	7	5	20
(0,1,0)	2	0	1	3
(0,0,0)	0	5	17	22
total	10	12	23	45

Table 7.5 The use of the five types of realization in the case of the conditional x partly mutual independence relationship between -'lɪɣ¹', resyllabification and sandhi voicing, and ɣ¹-weakening before a word boundary in the three age groups

7.6 Evaluation of the hypotheses, conclusions and outlook

The approach developed and applied in this chapter provides additional perspectives on structural aspects of the process of dialect levelling. In at least two respects this approach complements the one adopted in Ch. 6. First, it makes it possible to analyse units larger than the individual LV. Since the analyses surpass the level of the use of individual LVs, the present approach may be said to be non-atomistic. Moreover, it also seems closer to everyday language behaviour - at least insofar as words and their several realizations play a role in the consciousness of the ordinary speaker. LVs hardly seem to do so. The second reason why the current approach complements the one in Ch. 6 is that quantitative, apparent time analysis can be combined with a more profound examination of structural relations between elements and/or rules on a local level.

It should, however, be added that this approach is by no means perfect. It is clear that it still needs refinement on certain points, which is not surprising given its innovative character.

As regards the net results of this approach, at the beginning of this chapter we observed that dialect use is more than the mere use of individual dialect features. On the basis of the findings from this small part of our research one could conclude that

dialect levelling is something more than the mere decrease in the use of individual dialect features.

In nine of the thirteen cases of dependence between LVs in the realization of a word that were studied above, significant realization type x age group patterns were found, eight of which amount to dialect levelling. The findings are summarized in the following table. In this table 'S' stands for the dialect - standard language dimension and 'D' for the inter-dialectal dimension. In five cases the levelling occurs on both dimensions, which is indicated by 'D+S'.

	number of cases			
	studied	> signif. age group effect	> levelling	> dimension
disjunctive	2	1	1	D+S
conditional	7	5	4	D+S, D, D, D+S
combination	4	3	3	D, D+S, D+S

Table 7.6 A summary of the findings discussed in the present chapter, and their interpretation in view of hypothesis I

The only case in which a significant age group effect cannot be interpreted as dialect levelling concerns the conditional relationship between the dialect features absence of inflectional shwa (which produces a structure in which final devoicing applies) and sandhi voicing.

In at least three cases the levelling boils down to a structural convergence to more western Limburg dialects (i.e. $A \rightarrow B$, $B \rightarrow C$ and even $A \rightarrow C$) but not to the standard language. These developments may therefore be called regionalization. In other cases regionalization coincides with convergence to the standard language. Hence, also in cases of structural dependence between several dialect features levelling affects both dialect - standard and interdialectal variation. This finding provides further support for our hypothesis I. Dialect levelling again turns out to be a two-dimensional process of giving up dialect variants in favour of areally more widespread forms. These latter forms may be of a supra-local or supra-regional dialectal, or even of a national standard nature. Put otherwise: dialect-geographically, levelling results in an increase in scale.

The manifestations of dialect levelling presented in this chapter again show that this process is gradual with respect to all three parameters relevant to hypothesis II, namely time, geographical space and linguistic structure. The temporal graduality is

apparent from the fact that the age group patterns in the data are usually smooth. In a geographical sense, the gradual character of dialect levelling is revealed by the fact that there is a tendency for less widely distributed dialect features to be replaced by more widely distributed ones. Finally, the gradual nature of dialect levelling was observed also in linguistic structure. Besides the types (1,1) or (1,0), (0,1), and (0,0) we found structurally intermediate forms. Certain intermediate forms may be seen as the product of both structurally and geographically gradual levelling.

Here we will expand on that part of hypothesis II which says that dialect levelling is a geographically gradual process. According to Sapir's famous dictum¹⁰, all grammars leak. The leakage in the grammar of the Rimbürg dialect causes geographically small-scale features to escape. In some cases at the same time larger-scale features manage to intrude or gain more ground.

In Ch. 4 the notion of dialect levelling was operationalized as a significant apparent time reduction of structural variation. In the findings presented in Ch. 6 dialect levelling invariably took the form of a significant decrease in the use of dialect features. An operationalization of the latter type turns out to be too narrow in scope. The results of the analyses introduced in the present chapter contribute to establishing that dialect levelling may have other manifestations. Not all that should be interpreted as levelling consists of the *loss* of dialect features. On the basis of this consideration it seems necessary to define dialect levelling in a broader sense.

Within the framework of the approach introduced in this chapter it is also possible to bring up other questions. The question that seems most crucial is the following. In this chapter we have considered the age group patterns in the use of dialect features which are involved in a relationship of structural dependence with (an)other dialect feature(s) in the realization of a word or phrase or, more generally, in language production. Is there a difference in use and levelling of dialect features between such cases and cases in which such a relationship does not occur? In other words: does the presence or absence of a structural dependence relationship with other features on a local level affect the use and levelling of a dialect feature?

So much for the elicited part of the recorded speech material. In the next chapter we will consider the final selection of LVs. The findings regarding the occurrence and levelling out of these features in the spontaneous dialect use will be presented in chapters 9, 10 and 11.

¹⁰ As quoted by Bickerton 1975: 178.

Part IV

The deeper approach

Chapter 8

Selection and analysis of the linguistic variables in the spontaneous data

8.1 Introduction

In view of both the feasibility and the desired deepening of our investigation, the number of LVs to be studied in the spontaneous speech material had to be drastically reduced. Deepening was required both linguistically and with respect to extra-linguistic parameters of a macro-social (speaker background) and a micro-social kind (interactional situation). The incorporation of micro-social parameters was needed to test the third hypothesis.

The criteria applied and the result of the second selection will be presented in §§ 8.2 and 8.3. Three LVs were selected; they form a proper subset of those studied in the elicited dialect use. In § 8.4 we will examine the phonological nature of one of the LVs in our final sample, namely n-deletion, in more detail. As we announced in § 6.3.7, the linguistic motivation for this variable rule, as well as the limits on its application, still remain to be clarified. As will be seen, this clarification leads to a more profound analysis of the use of the rule in the spontaneous speech in the conversations. § 8.5 contains additional methodological considerations pertaining to the analysis of the occurrence of the three dialect features in the conversational speech material.

8.2 The selection procedure

The LVs to be analysed in the group conversations were selected from the twenty¹ LVs studied in the elicited material. Seven criteria were used in this second selection, four of which also played a role in the initial selection (discussed in § 4.2.1 above).

The *first* criterion was again the dialect-geographical one. The LVs had to represent the Rimburg dialect and at the same time they had to represent several values of the parameter dialect-geographical space. As may be recollected from the preceding chapters 4, 5 and 6, LVs with three degrees of geographical spread are being investigated; they were referred to as set A, B and C. The dialect features in A have the smallest, those in set C have the widest geographical spread. We decided to restrict our further analyses to one dialect feature of each set.

¹ These cover 21 dialect features, since the LV strong or irregular ~ weak conjugation fall into a B-type and a C-type feature (see §§ 4.3 and 5.3.12 above).

In the final selection the *second* criterion, the linguistic component, was held constant. Since the only linguistic components for which we traced LVs in all three sets A, B and C were the phonological and the morphophonological ones, our final selection was to consist of either phonological or morphophonological dialect features.

The *third* consideration was relevance to the phonological model of syllable structure which was presented in Ch. 2 and applied to certain LVs in Chs. 5 and 6. This model will occupy a larger place in the analyses of the spontaneous speech material.

The first criterion, areal spread, was used to enable us to test the sociolinguistic model, and the third one was included to test the phonological model. The second criterion, linguistic components, was intended to ensure a minimum of mutual comparability between the LVs. Since the first three criteria constitute necessary conditions, they were applied first (as a fyke net, so to speak). This resulted in a provisional selection of two LVs in each of the three sets. They are γ^1 -weakening and dorsal fricative deletion (A), R-deletion and n-deletion (B), t-deletion and sandhi voicing (C). The first three criteria constituted something like a sieve, with the aid of which we delimited the initial selection of LVs to a workable subset. The definitive choice will be made in the second round of this selection procedure with the aid of the remaining four criteria.

The *fourth* criterion for selection was structural coherence. Our point of departure in this respect consisted of the interrelations within the initial selection of dialect features.

The *fifth* requirement was a reasonable average frequency of use. This time, however, the frequency criterion was not only applied to dialect use, but also to the dialect as a linguistic system, i.e. the relative distribution or incidence of LVs.

Two criteria were added to the initial set. What we will call the 'relative distinguishability' of the variants of the LVs served as the *sixth* consideration.

The *seventh* consideration has been labelled 'relative statistic salience', for want of a better designation. To implement this criterion, we made use of the results of the analyses of the elicited data. Statistic salience was operationalized as both variability and vulnerability to loss. For each LV the variability in the overall use² of the dialect feature can be determined by the standard deviation ('s' in Table 6.1 in § 6.3). Squaring this measure yields the amount of variance. In connection with the vulnerability of the dialect features, we distinguished between loss (significant decrease in use) on the level of overall use and loss in specific linguistic conditions. The relevant findings were presented in section 6.3 and summarized in § 6.4.1 above. On the overall level, vulnerability is a binary variable, since loss either takes place or it does not. With regard to the assessment of the vulnerability of dialect features in connection with linguistic conditions, account was taken of both the number of linguistic conditions exhibiting loss and the number of linguistic conditions investigated,

² That is, use as such, unrelated to the age group of the speakers.

without computing the ratio. The procedure adopted was as follows. First we rank-ordered the dialect features in each pair according to the number of linguistic conditions showing loss, as well as according to the number of linguistic conditions investigated. Subsequently, a rank-order was established on the basis of the previous two rank-orders.

The four criteria adopted in the second round of this selection procedure all concern mutually unrelated characteristics of LVs. Since the relative importance of these latter criteria cannot be established, they were not mutually weighted. The fourth, structural coherence, was applied to guarantee generalizability to the dialect as a linguistic system. The fifth and sixth criteria are practical ones. Distributional frequency again guarantees a certain internal generalizability. 'Statistic salience', the seventh and last criterion, was applied first of all to favour LVs with a high variability. With regard to the variability as well as the relative vulnerability to loss of the dialect features, we made use of the findings from the elicited data.

Applying the criteria four to seven leads to selecting γ^l -weakening (A) and n-deletion (B) for analysis in the spontaneous data. It is a bit awkward that no definitive choice can yet be made in set C on the basis of the above criteria. However, although both t-deletion and sandhi voicing are relevant to the phonological model of syllable structure (criterion 3), the former LV appears to be somewhat more interesting, as it is also relevant to the part of the model regarding the distribution of sonority over the syllable.

There is another argument in favour of choosing t-deletion. Analyses of the elicited data which have not yet been discussed showed that, although neither t-deletion nor sandhi voicing appear to be undergoing loss (criterion 7b), the use of sandhi voicing is comparatively stable, whereas t-deletion may be slightly gaining ground.³ In our findings from the elicited data for each single LV presented in Ch. 6 dialect levelling only took the form of a (significant) apparent time decrease in the use of dialect features. However, our definition of dialect levelling as the reduction of structural variation (in § 1.1 among others), as well as our operationalization of this notion (in § 4.1) explicitly permit including cases of increasing use of geographically widespread dialect features - some instances of which were brought to light by the analyses presented in the preceding chapter. After all, both types of development amount to a reduction of structural variation, hence to growing structural homogeneity. An increase in the use of a relatively widespread phenomenon like t-deletion should thus also be seen as an instance of dialect levelling.

A third argument in favour of t-deletion is the fact that this LV has already been studied in quite a number of other dialects, both in the Dutch and in the English

³ In neither case does the overall age group effect reach the level of significance.

language area. This facilitates comparison of research findings⁴ (Hinskens 1986b: 63). It should be kept in mind, however, that in the Limburg dialects we are dealing with final t-deletion after obstruents.

The final selection, then, results in choosing γ^l -weakening (A), n-deletion (B) and t-deletion (C) for further analysis in the spontaneous dialect use.

All three LVs in our final sample occur in words like

- (1) stand. Dutch *ingemaakt*
 deepest dialect *ijəmak* 'preserved, conserved; slaughtered'

8.3 Properties of the selected dialect features

To briefly recapitulate the major relevant findings presented in Ch. 6, consider the mean use and the standard deviation in the use of these dialect features in the elicited data:

		\bar{X}	s
A	γ^l -weakening	26.59	31.44
B	n-deletion	35.55	13.90
C	t-deletion	41.62	14.38

Table 8.1 Mean and standard deviation of the use of the dialect features selected for analysis in the spontaneous speech; findings from the elicited data for the entire sample (n=27)

The mean elicited use of the three dialect features by the speakers of the three age groups is visualized in Figure 8.1.

The dramatic apparent time change in the relationships between the three features, in particular the decrease of the use of the least widespread LV in favour of the most widespread one -as it were- is clearly visible in this figure. Of these three dialect features only γ^l -weakening was found to be undergoing loss on the 'overall' level.

⁴ This will also be possible for γ^l -weakening, which was investigated by e.g. Hagen 1981 for the dialect spoken in Kerkrade and some surrounding places, as well as by Schlobinski 1987 for the dialect spoken in Berlin.

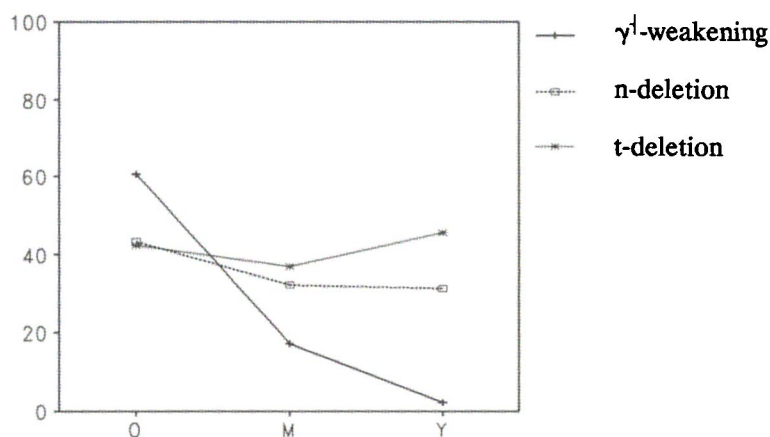


Figure 8.1 Mean use in the three age groups of the dialect features selected for analysis in the spontaneous speech; findings from the elicited data

On a linguistically more detailed level, the loss of the three dialect features, expressed in the ratio [number of linguistic conditions showing loss / number of linguistic conditions investigated] is:

A	γ^l -weakening	7 / 7
B	n-deletion	1 / 9
C	t-deletion	0 / 11

Table 8.2 The relative number of linguistic conditions in which the use of the dialect features selected for analysis in the spontaneous speech undergoes loss; findings from the elicited data

In none of these LVs does any of the 'families of conditions' (or linguistic dimensions, as we labelled them) significantly affect the age group distribution of the use of the dialect feature - as can be seen in Table 6.25 in § 6.4.1. This is a similarity, albeit a negative one, between the features in our final sample.

On the basis of the data from the elicited speech material for the entire sample of speakers, we also calculated the correlation coefficients between the overall indexes of use of these three dialect features - consider Table 8.3 below.

All three correlations are weak, even the one between n-deletion and t-deletion, which is the only statistically significant one. The fact that the correlation between γ^l -weakening and t-deletion, which represent extremes on our scale of geographical dispersion, is so very low and the general weakness of the correlations between the three features suggest that each of them forms part of a different dimension.

	n-deletion	t-deletion
γ^l -weakening	.1912 (.170)	-.1725 (.195)
n-deletion		.4402 (.011)

Table 8.3 Pearson correlation coefficients between the dialect features selected for analysis in the spontaneous speech; findings from the elicited data for the entire sample (one-tailed probabilities)

To conclude this section, we will briefly and in very general terms compare the LVs in our final sample in linguistic and sociolinguistic respects. As far as linguistics is concerned, next to being phonological phenomena which are relevant to our model of syllable structure, the LVs that we chose for the analysis of the spontaneous data share three other characteristics:

1. they are all postlexical processes affecting the realization of a specific segment,
2. they all concern a consonant, and
3. they all operate at a syllable margin.

Lacking data regarding the use of the three LVs in our final sample in different speech styles, they cannot be compared to one another with respect to sociolinguistic status, as expressed by Labov's typology indicator / marker / stereotype (1972a: 178-80). However, Trudgill (1986: 11) lists four "factors which lead to greater awareness and thus to an indicator becoming a marker". In Table 8.4 below our three dialect features are evaluated for these factors, which, according to Trudgill (p. 37), determine the salience of an LV.

Since we have not been concerned with evaluation, we have no clues as to whether or not these dialect features are stigmatized (the first part of the first factor). Especially in the use of this criterion, Trudgill's typology differs from the one introduced by Labov. In Labov's tripartition stigmatized variants are called stereotypes.

We interpreted linguistic change, the second factor, as apparent time change. A significant age group effect on the frequency of their overall use was established only for γ^l -weakening.

	γ^l -weakening	n-deletion	t-deletion
1.a overt stigmatization; b dialect variant does not "tally with the orthography"	? +	? +	? +
2. "involved in linguistic change"	+	-	-
3. "variants are phonetically radically different"	-	+	+
4. "involved in the maintenance of phonological contrasts, minimal pairs"	+	+	+

Table 8.4 Applying Trudgill's criteria for the salience of LVs to the ones selected for analysis in the spontaneous speech

The third factor speaks for itself, and with respect to the fourth, pairs like the following are relevant:

- | | | | |
|-----|---------------------------------|----------------------------------|---|
| (2) | $\gamma^l o$ | - jo | 'to go' - 'yes' |
| | $\gamma^l ek$ | - jek | 'mad' or 'madman' - 'reefer jacket' |
| (3) | k γ rin | - kri | 'get, take' pres. 1 sing. - ibidem imper. informal |
| (4) | zakt | - zak | 'drop, sink' pres. 3 sing. or 2 plur. - pres. 1 sing.
or 'sack, bag' N |
| | $\gamma^l \text{əm} \text{akt}$ | - $\gamma^l \text{əm} \text{ak}$ | 'made' past partic. - 'comfort, ease' N |

More generally, each of the variants of these three LVs is involved in contrasts throughout the phonological system: γ^l contrasts with other fricatives, j contrasts with other glides, n with other nasals, and t with other stops, to mention only the most obvious segmental contrasts. All these segments except γ^l occur and contrast also in other phonotactic positions than the ones considered here.

In all, all three rules score positively with respect to three out of four factors. We conclude that, despite certain differences, the three LVs we chose for further study seem to be reasonably comparable with respect to salience.

8.4 Phonological aspects of the rule for final n-deletion. Introduction

Usually one reports on an investigation as a series of linearly ordered, logically successive steps. However, part of the phonological model of syllable structure presented in Ch. 2 was elaborated as our research progressed. This is the reason why the quantitative analysis of the use of γ^1 -weakening, final n-deletion and final t-deletion in the spontaneous material was extended so as also to include additional linguistic dimensions. For instance, although the effect of the following segment on final t-deletion was not studied in the elicited data, it was analysed in the data from the conversations, reported on in the next chapters.

The phonological analysis of the variable rule of final n-deletion in certain monosyllabic words was also elaborated as the investigation went along. This analysis, which makes crucial use both of the kind of phonological insights sketched in Ch. 2 and of insights which emerged during our quantitative analyses of the use of this LV in the elicited material, will be presented in this section. For the sake of this analysis, we will first consider the domain of the rule, beginning with its lexical incidence. Throughout the present section we will be concerned mainly with two questions:

(a) what exactly distinguishes the words that can undergo final n-deletion from words that cannot? This issue will be considered in §§ 8.4.1 and 8.4.2;

(b) certain, as yet undefined, contexts have a knock-out effect (Labov 1969; Rousseau & Sankoff 1978) on n-deletion: in these contexts the rule never applies. What is the essential difference between the contexts in which the relevant words cannot undergo final n-deletion and those in which it can? This question will be central in § 8.4.4.

8.4.1 Final /n/, stress and tone contour

In (37) in § 5.3.7 above we gave an exhaustive list of the words which can go undergo n-deletion. We observed that these words have several things in common, one of which is the fact they may but need not be realized with a tone contour.

Now, as may be recollected from § 2.3.5 above, Limburg dialects generally have two contrastive tone contours: HL and HLH. All words that can undergo n-deletion may surface with HL; only the subset in (5) can be realized with either HL or HLH:

(5) PREPOSITIONS

/van/	<i>van</i>	'of'
/in/	<i>in</i>	'in'

ADVERBS

/dan/	<i>dan</i>	'then, than'
/nun/	<i>nu, nou</i>	'now'
Vinf		
/han:/	<i>hebben</i>	'to have'

Among the entire group of words that can undergo n-deletion, the preposition *aan*, 'on' and the adverb *nou*, *nu*, 'now' are the only ones with three rather than two dialect variants:

standard	<i>aan</i>	<i>nou</i>	tone c.	weight
dialect	a:	nun:	HLH	superheavy
	an	nun	HL	heavy
	a	nu	—	light

Table 8.5 Dialect variants of the preposition *aan*, 'on', and the adverb *nu*, 'now'

In the case of *aan*, one dialect variant⁵ has a long vowel and is invariably n-less; it nevertheless constitutes a superheavy syllable. The other two variants both have a short vowel; the differences between them result from the application of the rule of final n-deletion.

One of the n-dialect variants of the adverb *nou* is superheavy as well; however, unlike *aan*, this word does not have an n-less dialect variant forming a superheavy syllable.

All other variably n-deleting words constitute heavy syllables. The words of this group, including the two short-vowel variants of the words 'aan' and 'nou', never have the tone contour HLH: n-forms like /an/ and /nun/ may have HL, whereas n-less variants like /a/ and /nu/ never have any tone contour at all. Somehow, final n-deletion therefore seems to be related to tone contour. Let us try to establish the exact nature of this relationship.

Among the words which can undergo n-deletion, there are two forms of the verb 'have'. When they have [n], these two forms of the verb 'have', namely the infinitive and the finite pres. sg. 1 conjugational forms, differ in tone contour, the infinitive having HLH and the inflected form having HL. In n-less shape, they are no longer phonetically distinct. Final n-deletion thus neutralizes the contrast in tone contour; what is more, after n-deletion it is no longer possible to realize any tone contour. We conclude that this final /n/ plays an essential role with respect to the realization of a tone contour.

As may be recalled from § 2.3.5, in these dialects a certain degree of stress is a necessary condition for the realization of a tone contour. As we have just established, in the variably n-deleting words the realization of a tone contour (whether HL or

⁵ This variant functions as an adverb.

HLH) moreover requires the /n/ to be present phonetically. Obviously, *in these words final [n] is a tone-bearing unit*. In the specific constellation [+stress], henceforth *, and n-lessness, these words *never* have a tone contour. Whereas the words in subset (5) can surface in either of the following four different forms:

(6)	HLH	*	+ [n]
	HL	*	+ [n]
	no tone contour	*	- [n]
	no tone contour	no *	- [n]

the words in (37) in § 5.3.7 which are not part of the subset (5) can only take on the forms indicated in the bottom three rows in (6).

In (6) we have explicitly indicated that n-deletion is not only allowed if the relevant monosyllabic word is unstressed; it may also take place when the word bears stress. What we have not indicated in (6) is the realization type where the /n/ is phonetically present, but the word is not stressed, so that the word is realized without a tone contour.

8.4.2 Structurally similar but grammatically and prosodically different words.

Synthesis

As we have pointed out, in the A- and B-type dialects the variant of *aan* with a long vowel is invariably n-less. The same holds for a number of other words consisting of a single superheavy syllable. In the same dialects, however, other superheavy monosyllabic words are invariably realised with [n]. In both cases, there is no variation as to the presence or absence of the final /n/. In Table 8.6 some examples are given, classified both according to the nature of the vocalic part and to their tone contour.

Apart from their weight (a), these words have at least three more things in common:

- b. final n-deletion is not variable: it either takes place categorically (or rather, the n-less forms have been lexicalized, as in the dialect variants of *been* and *plein*), or not at all;
- c. final /n/ does not bear tone. Indeed, as could be predicted on the basis of (8) in § 2.3.5 above, the entire tone contour is realized on the (long) vocalic part of the rhyme;
- d. all words are content words, and consequently are relatively invariable as far as stress is concerned.

	HLH			HL		
long vowel	/ma:n/	<i>man</i>	'man'	/han/	<i>haan</i>	'rooster'
	/be:z/	<i>been</i>	'leg'	/klon/	<i>clown</i>	'clown'
	/kni:n/	<i>konijn</i>	'rabbit'	/ʃon/	<i>schoen(en)</i>	'shoe(s)'
diphthong	/trein/	<i>trein</i>	'train'	—		
	/fein/	<i>fijn</i>	'nice'			
	/plei/	<i>plein</i>	'square' N ⁶			

Table 8.6 Some words consisting of a single superheavy syllable which do not undergo variable n-deletion

Some discussion is required here with respect to (a), (b) and (d).

re *a* and *b*:

Words of the type represented by those in Table 8.6 form superheavy syllables, as is the case in the first of the three dialect variants of *aan* (which is n-less) and *nou* (where final /n/ is present) presented in Table 8.5 above. Whereas the presence of final /n/ is invariable in such words, it is variable in the words in (37) in § 5.3.7, all of which consist of a single heavy syllable.

re *d*:

From the variably n-deleting words, the prepositions, the conjunction and the auxiliaries 'can', 'have' and 'am' (which also serves as a copula) are function words. As such, and because of the fact that (with the exception of the conjunction *en*) they may all occupy the final position in the sentence, they are variable as far as stress is concerned. This also holds for the adverbs and the other verbs involved.

This brings us to their status within the prosodic hierarchy. With the exception of the verbs, none of the variably n-deleting words is a lexical head; therefore, except for the verbs, these words never constitute a phonological phrase (Φ).

In ordinary Dutch language use, auxiliaries (half of variably n-deleting verbs) are often immediately followed by either an infinitive or a past participle. The main verb then forms a phonological phrase of its own. Syntactically, the relationship between the two adjacent phonological phrases, the second one of which is nonbranching, is one of complementation. In such a structure, the rule for Φ -restructuring may be triggered, with the effect that the two phonological phrases are joined into one (Nespor & Vogel 1986: 173). In the resulting, extended phonological phrase, the auxiliary is in a weak position.

Hence, within their phonological phrase, some of the words of the group in (8) are always, and the others are often in a weak position - in sharp contrast to words of

⁶ Several other diphthongs exist apart from /ei/, but no monosyllabic words have been found that contain one of these diphthongs followed by a (deleted or undeleted) final /n/.

the type represented by those in Table 8.6. As lexical heads, the latter *always* bear a certain degree of stress, witness the fact that they are always assigned a tone contour. Most probably, the highly variable behaviour of the words in (37) in § 5.3.7 with respect to stress explains the fact that the final /n/ is variably deleted.

In case the /n/ is phonetically present, the segmental condition for HL-insertion is fulfilled; if the word is sufficiently stressed, then the suprasegmental requirement for HL-insertion is also met, and the word will be realized with a tone contour. If, on the other hand, the final /n/ is deleted, then one of the two conditions for the assignment of a tone contour is not fulfilled. This is why these words may surface n-lessly even when they are stressed - see e.g.

- (7a) ɪdœ¹ijə
induwen 'push in'
- (b) leg ət do¹a maR ɪ
leg 't daar maar in 'put it in there'
- (c) wat wølstə γ¹e:ə R ha
wat zou je graag willen hebben ? 'what would you like to have?'

So the 'etic' variable [\pm stress] is not directly related to n-deletion - cf. (6) above. At the same time, however, the generally high variability of the words in (37) in § 5.3.7 with respect to stress appears to be the genetic explanation for their variably undergoing n-deletion. In this respect the deletion is comparable to that of post-shwa word-final n-deletion in most varieties of modern Dutch, including the dialects at issue. After all, a syllable with shwa is never stressed. The latter rule, although variable, is well-nigh categorical in almost all speech styles. It operates independently of the morphological status of /ən#/. (Van Oss & Gussenhoven 1984). It therefore has some of the primary characteristics of a postlexical process.

Because in Limburg dialects the final /n/ in the variably n-deleting words is a tone-bearing unit, its phonetic presence is a necessary (but not a sufficient) condition for the realization of a tone contour. If the /n/ is deleted, the realization of a tone contour is therefore impossible.

8.4.3 Final n-deletion, syllable structure and syllable sequencing

The change from a CVC to a CV syllable, which results from word-final n-deletion, may as such be evaluated as a natural process, since universally CV is the maximally unmarked syllable type (e.g. Kaye & Lowenstamm 1981: 290-96) and, accordingly, CV\$CV\$CV is the preferred syllable sequencing. However, final n-deletion in the relevant words results in a CV-syllable in which the vowel is short and lax. Except in case a shwa is involved, such a structure is avoided if not altogether ill-formed at least

in Dutch, German and English.⁷ In the dialect use elicited in a sample of 27 speakers of the Rimbürg variety, the n-deletion rule is not applied very often (witness the mean index value of 35.55). However, overall no apparent time manifestations of rule loss were brought to light.

With respect to the effect of the right-hand environment on the application of the rule, one of the results of our statistical analyses of the elicited data is most remarkable. In the context 'preceding a pause', that is, in a monomorphemic word at the end of a sentence, final /n/ was deleted much more often than before a segment. Our expectations regarding the effect of the nature of a following segment were confirmed: before a C, the n-deletion indexes turned out to be much higher than before a V.⁸ This latter finding supports our analysis of word-final n-deletion as a postlexical rule.

As we saw in § 6.3.7 above, in the elicited dialect use of the speakers in our sample, significant apparent time loss was established only in the application of the rule before a C (both generally and in monomorphemic words), not before a vowel or a pause. So in the case of this dialect feature, the levelling process is not structurally motivated in the first place. On the other hand, the relatively limited use of the rule before vowels is supported by universal linguistic tendencies regarding syllable structure and syllable sequencing. If this interpretation is correct, these findings in a way parallel the ones presented by Hundley (1986) regarding two opposite phonological processes of Peruvian Spanish, summarized in § 2.5.1 above.

8.4.4 Two blocking conditions

As was pointed out in the preceding subsection, final n-deletion is subject to several conflicting linguistic forces. Some of these seem to catalyse use of the rule, whereas others seem to inhibit its application. It is no surprise that within the dialect grammar n-deletion is a variable rule. In this final subsection we will briefly present other inhibiting forces. These ones are not tendential, though, but categorical.

First of all, unlike full vowels, a following schwa blocks n-deletion:

⁷ For Dutch, see Booij 1981: 84, Kager et al. 1987: 199 and Van der Hulst & Van Lit 1987: 181, 183, 184; Rietveld 1983: 119-22, 252 is based on the results of a phonetic experiment. For German, see Kloeke 1982: 10 and Wiese 1986: 5 - cited in § 5.3.7 above. For English, see Schane 1973: 13, among others. The dialect spoken in Kerkrade, which as an A-type Limburg dialect has the final n-deletion rule, has at least three interjections consisting of a monosyllabic word ending in a short, lax vowel (KKD 1987: 16).

⁸ For our sample of speakers the indexes for n-deletion are: before pause 63.58, before consonant 55.44, before vowel 12.07. The effect of the linguistic dimensions following pause vs. following segment ($t=7.18$ $df=26$ $p=.000$), as well as the main effect of the overarching linguistic dimension right-hand context ($F=57.22$ $df=2,52$ $p=.000$) are highly significant.

- (8a) dat ka(n) iɕ
 'that can I'
 (b) iɕ ka*(n) ət
 'I can it'
 (c) iɕ ha*(n) əs ɔːx al ɣˠəhat di ...
 'I have ones also already had that' =
 'I have also already had ones that ...'
 (d) iɕ ha*(n) ə hu:s ɪ kɪɾ˩kɾo
 'I have a house in Kerkrade'
 (e) ka*(n) ə komə
 'can he(clit.) come?'

The difference between shwa and other vowels in the right-hand context suggests that the n-deletion rule is blocked because the following word cliticizes onto the target word. Whereas the prosodic structure of the relevant part of (8a) is⁹

- (9a)
- | | | |
|---|-----|-----------------|
| C | C | |
| | | |
| M | M | |
| | | |
| V | Pro | n-deletion okay |

in the case of (8b) and (8c), where n-deletion is blocked, it is¹⁰

- (9b)
- | | | |
|---|------|--------------------|
| C | | |
| | | |
| M | clit | |
| | | |
| V | Pro | n-deletion blocked |

The relevant constraint can consequently be formalized as:

- (10) no n-deletion in the context $__]_M [\text{ə}C_0]_{\text{clit}}]_C$

⁹ Although neither of the two phonological words in (9a) incorporates a clitic, they both form a clitic group of their own. This is required by the Strict Layer Hypothesis (Nespor & Vogel 1986: 7, 25).

¹⁰ As we pointed out in § 2.3.2 above, there are doubts regarding the need to distinguish a separate prosodic domain of 'clitic group'. In case one chooses to do without the 'clitic group' as a separate level, the clitic is incorporated into the preceding M and the result does not constitute an additional level.

i.e. final /n/ cannot be deleted if the following word is a shwa-initial clitic which hence becomes incorporated in the relevant n-final word, thus forming a clitic group with it (Nespor & Vogel 1986: Ch. 5).

Whereas n-deletion is *categorically* blocked whenever a shwa-initial clitic follows, the rule is *sometimes* prevented from operating in case the following word has an initial /d/; the rest of the segmental structure of the following word does not play a role in this connection.

The fact that the rule is never blocked if the following word has, say, /t/, /s/ or /z/ as its initial segment makes it easy to understand the segmental part of this second constraint: the features [+voice] and [-cont], and the partial gemination of /n/ and /d/ apparently have something to do with it. Feature identity on the laryngeal and the (supralaryngeal) manner and place tiers thus forms the essence of the segmental part of this blocking constraint.¹¹

However, this still does not explain why the blocking effect in this case should be variable. The apparent unpredictability of blocking if a d-initial word follows, in combination with the fact that n-deletion as such is already a variable rule, makes it difficult to further elucidate the linguistic motivation for this blocking. We suspect that a prosodic factor is at work here as well. We will therefore start by trying to delimit the domain of this specific constraint by determining in which cases n-deletion may take place if a /d/ follows.

As was already clear, n-deletion is never blocked if the relevant word is the first member of a compound (cf. (7a) above). It was exactly because of this fact that we concluded (in § 5.3.7 above) that final n-deletion operates at the level of the phonological word, and is therefore a domain limit rule. It may operate on the juncture of two intonational phrases ('I'), as is evidenced by the following example - which, like all other examples given in this section, is taken from the 'spontaneous' dialect use recorded for this study.

- (11) mar iɕ sa(n) dat is ...
 'but I say: "that is ..."

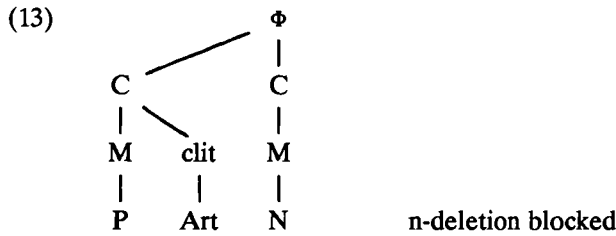
These facts suggest that the apparently coincidental blocking of the n-deletion rule in case the initial segment in the following word is /d/, has the prosodic levels in between the phonological word and the intonational phrase as its domain; these are the levels of the clitic group and the phonological phrase (Φ).

Having approximately determined the prosodic domain, we will now consider more examples in order to establish the exact nature of the constraint. Final n-deletion is not allowed and never occurs in:

¹¹ A similar phenomenon, typical of a cluster of East-Limburg dialects, is central in § 4.2 of Wetzels 1993.

- (12a) vɑ*(n) də(R) ...
 'of the ...'
 (b) ɪ*(n) də(R) ...
 'in the ...'

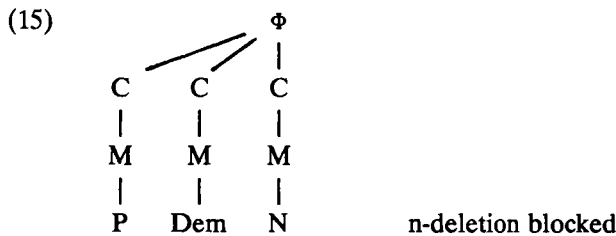
Here again we may be dealing with clitics - in this case the cliticized forms of articles. The prosodic structure then is:



Articles need not be realized in a phonetically drastically reduced fashion. If they are not, they are not incorporated into the clitic group, and constitute a phonological word of their own. However, n-deletion is still blocked in that case. In the following example, the /d/-initial word is a demonstrative. It is not cliticized (in this specific realization it was even heavily stressed, which is why it has been underlined), but n-deletion is blocked all the same:

- (14) ɪ*(n) *dat* filia·l
 'in that branch'

In this case, the prosodic structure is:

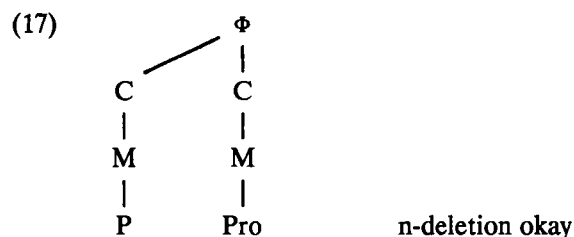


Had the demonstrative not been stressed, n-deletion would also have been blocked.

Let us now consider some cases where n-deletion is allowed before a /d/-initial word.

- (16a) a(n) *dɛm*
 'on/to him'
 (b) va(n) *dɪç*
 'of you'

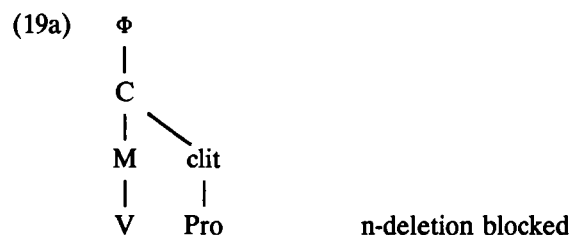
Assuming that personal pronouns count as lexical heads if they are stressed (cf. Neijt 1985: 185), the prosodic structure of such configurations is:



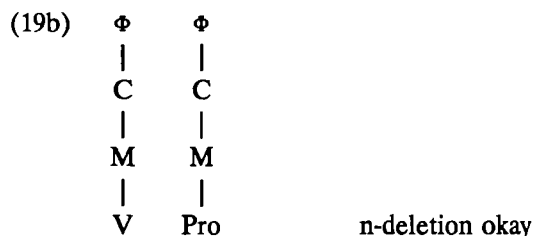
However, in other cases where the /d/-initial word is a pronoun, the final n-deletion rule is blocked, as for example in:

- (18) Iç *ka*(n)* dɪç (...) Vinfin
 'I can you'

Here the following pronoun is unstressed, and behaves like a clitic (cf. Neijt 1985: 186):



However, had the following pronoun been stressed, n-deletion would not have been blocked. In case the pronoun is stressed, it is a phonological word of its own. What is more, when stressed, it counts as a lexical head:



This leads us to the solution to the problem regarding the non-segmental part of this second blocking constraint:

- (20) In case the following word has an initial /d/, final n-deletion is allowed
iff the following word is
- (a) not encliticized, and
 - (b) a lexical head, thus forming a phonological phrase.

An interesting aspect of the non-segmental part of (20) is that condition (a) implies (10), the first blocking constraint.

8.4.5 Final remarks

Throughout this section we have dealt with the rule of word-final n-deletion. This led to a better understanding of the rule itself and of the prosodic conditions on its application. In the following three chapters we will try to establish

- if and how the rule appears to be involved in a process of dialect levelling in spontaneous dialect use, and if so,
- the relationship between its linguistic nature on the one hand and the levelling process on the other.

First, however, some additional methodological considerations are necessary, not only with respect to the use of the final n-deletion rule, but also to the occurrence of γ^l -weakening and t-deletion.

8.5 Additional methodological considerations: the analysis of the spontaneous speech

All of the twenty dependent, linguistic variables from the initial selection were studied only in the elicited data. The analyses of the use and levelling of the three remaining LVs in the spontaneous data were 'deepened' both linguistically and extra-linguistically. The linguistic deepening of the analyses of the use and levelling of γ^l -weakening,

n-deletion and t-deletion in the spontaneous material manifests itself among other things in the increased number of linguistic dimensions and conditions in which they were analysed: for γ^1 -weakening one and one, and for n-deletion three and five extra dimensions and conditions, respectively. Two of the linguistic dimensions in which the elicited data for t-deletion were studied were removed but two new ones were added; this resulted in the elimination of five linguistic conditions and the incorporation of five new ones. The total number of dimensions and conditions involved in the analyses of the three LVs in the spontaneous speech material thus amounts to

LV	n ling. dimensions	n ling. conditions
γ^1 -weakening	4	8
n-deletion	6	14
t-deletion	5	11

Table 8.7 The number of linguistic dimensions and conditions involved in the analyses of each dialect feature in the spontaneous speech

Extralinguistically, the analyses were deepened in two respects. The first one concerns the testing of *hypothesis III*. According to this hypothesis, the long-term process of dialect levelling is foreshadowed in accommodation in dialect use. Testing this hypothesis required a design which makes it possible to compare dialect use in different contact situations. The situations were systematically varied with respect to the dialects with which our speakers were confronted via the speech of their interlocutors; the dimension on which these dialects had to differ was their distance from the Rimbürg dialect. In § 4.4.2 we explained how the spontaneous speech was collected to make it possible to study this factor. The spontaneous material thus enables testing *all three hypotheses* - in contrast to the elicited data, which only permitted testing hypotheses I and II.

The analyses were also made more profound in macro-social respects, in that dialect use was related to the speaker background variables autochthony, geographical mobility, educational background, occupation and socio-economic background. They were presented in section 4.3. These variables are not needed to test the three hypotheses. In §§ 4.3.1 and 4.3.3 we paid attention both to the considerations that played a role in the choice of variables, and to the way they were operationalized. In § 4.3.3 we used the correlations between these speaker background variables to explore the internal structure of our sample of speakers as far as these additional independent variables are concerned.

On the basis of findings for the urban dialect of Nijmegen, Van Hout observes that an "age effect is not a self-contained effect, [rather] it is an effect brought about by general societal developments" (1989: 323-24, cf. 273-77). Most probably, such societal developments are reflected in the speaker background variables in a far more

direct way than in the speakers' age. However, although age is not as such a social, let alone an explanatory variable, it will keep a central place in our analyses: what other ways do we have in this synchronic study to assess whether or not levelling is taking place?

In the remainder of this section we shall be concerned only with methodological aspects of the linguistic analyses of the use of the three dialect features in the corpora with spontaneous speech. To each feature a separate subsection is dedicated (§§ 8.5.1 to 8.5.3). The chapter will be concluded with some considerations on two linguistic aspects of the analyses of two different dialect features and on a linguistic dimension which is involved in the analysis of all three dialect features (§ 8.5.4).

8.5.1 Methodological aspects of the analysis of γ^l -weakening

With respect to the analysis of γ^l -weakening the following aspects of the linguistic dimensions should be accounted for:

From the elicited data it emerged that the use of the weakened [j] dialect variant of $/\gamma^l/$ depends, among other things, on the nature of the following segment. In this respect, the question of whether a shwa or a full vowel follows turned out to be of no importance, however (the overall mean indexes of use of the dialect feature being 22.93 and 23.89, respectively; $t=0.29$ $df=26$ $p=.778$). For this reason, we decided not to differentiate between these two conditions any further in the analyses of the spontaneous data. Henceforth, in this dimension the condition 'following vowel' (as opposed to 'following liquid') thus covers both shwa and full vowel.

On the other hand, the analyses of the use of this LV in the spontaneous speech were extended with the dimension 'within words vs. between words'. It should be added that γ^l -weakening across word boundaries may only occur if the next word has a vowel as the initial segment and resyllabification with subsequent sandhi voicing has taken place (cf. § 5.3.2 above).

Examples of application of the dialect feature across word boundaries are:

- | | | | | | | |
|-------|---|---------------|--|---------------|--|-----------|
| (21a) | $m\dot{\imath}\dot{\gamma} \#\# \text{ ins}$ | \rightarrow | $m\dot{\imath}\gamma^l \text{ ins}$ | \rightarrow | $mij\text{ins}$ | 'me once' |
| (b) | $w\dot{\imath}r^{\partial}k\text{-}l\dot{\imath}\dot{\gamma} \#\# \text{ in}\partial$ | \rightarrow | $w\dot{\imath}r^{\partial}kl\gamma^l \text{ in}\partial$ | \rightarrow | $w\dot{\imath}r^{\partial}kljin\partial$ | 'truly a' |

In the last part of § 7.4 we paid attention to the findings from analyses of fifteen cases of feeding order of the type of (21a); in the final part of § 7.5 those for three cases of type (21b) were considered. From the point of view of dialect levelling, the findings turned out to be especially interesting. Apart from these cases, the use of the γ^l -weakening rule in the condition 'between words' did not come out well in the

elicited material, because the tasks were not designed so as to enable systematic analysis of the effect of the linguistic dimension 'prosodic level'.

In the spontaneous speech material the use of this rule was systematically related to this linguistic dimension.

As for the linguistic dimension 'grammatical status: part of lexeme vs. part of bound morpheme', in the analyses of the spontaneous speech the latter condition included not only past participles (which generally have a prefix 'ge-' as part of a discontinuous affix), but also adjectivalized past participles and pseudo-participles.

Special care was taken in case an [i] or [j] preceded, since these segments can cause place assimilation.

Excluded from analysis were

1. all cases in which [ç] or [x] preceded;
2. cases in which a tautomorphemic non-high back vowel preceded - because these segments trigger the allophony rule, which bleeds γ^1 -weakening - e.g.

- (22) [jo γ^1 a] 'yoga'
 [jo α a]
 *[joja]

3. cases like / γ^1 l \emptyset və/, 'to believe', which have a Dutch equivalent *geloven*, but a German one *glauben*. In such cases it is not clear whether or not a shwa precedes the liquid in the dialect variant of the word;

4. the verb /kri:jə/, 'to get' and its past participle. In these two specific cases, the variants with /j/ appear to have an areal spread which extends the dialect-geographical area of the 'true' Ripuarian dialects, the so-called A-type dialects, in all of which γ^1 -weakening is still productive. In other words, weakened variants of these two forms of this verb can be found in several dialects in the transition zone Ripuarian - East-Limburg (the B-type).

8.5.2 Methodological aspects of the analysis of n-deletion

As we pointed out in § 5.3.7, there are good reasons to assume that the (variable) rules I-lowering before non-labial nasals and final n-deletion are naturally ordered, i.e. that a word like *in* first undergoes the lowering rule and then final n-deletion. This issue did not play a role as such in the analyses of the elicited dialect use, but it will in the spontaneous data. To this end, we distinguished between words that may undergo I-lowering and words that may not, in order to see whether the two groups behave differently with respect to n-deletion. The words that may undergo the lowering rule (namely /m/, 'in', /hm/, 'away', 'to', /bm/, '(I) am') are relatively evenly

distributed among the word classes (preposition, adverb, verb) and the possible tone contours (HLH and HL). Therefore no skewing covariation of other linguistic dimensions need be feared.

The phonological analysis of the n-deletion rule presented in the preceding section has a number of methodological consequences. The first ones are of a dialect-geographical nature.

In the dialect spoken in Sittard, which represents the C-type Limburg dialects in our study¹², the verb forms which are equivalent to standard Dutch (ik) *krijg*, '(I) get', *heb*, 'have', *zeg*, 'say', and *hebben*, 'to have' (infin.), have another final segment than /n/. All other relevant words,¹³ however, do have a final /n/ in the Sittard dialect. Of this latter subset of words the equivalents of standard Dutch *van*, 'of', *in*, 'in', *aan*, 'on', *dan*, 'then, than', and *nou*, 'now', have been found to undergo final n-deletion occasionally also in the Sittard dialect. This seems to contradict our dialect-geographical classification of the rule as a B-type dialect feature. Three points should be added, however. First, in the Sittard dialect final n-deletion is restricted to these words. Second, even in these few words, the rule was used very rarely in the more-than-two-hour 'in-group' recording of three Sittard Nonmobile Older relatively Rural Males we made to enlarge and update the basis of the initial selection of LVs (see § 4.2.2 above). Third, even for these few words the rule appears to have almost been lost, since the younger speakers of the Sittard dialect who were consulted decidedly rejected n-less variants of the relevant words. We conclude that there is no real problem here.

In connection with the first point, some additional remarks are in order. In the preposition *aan* the Rimburg dialect, unlike the Sittard one, has variable final n-deletion iff the word is realized with a short vowel (as can be seen in Table 8.5 in the preceding section). Our analyses of the spontaneous dialect use were therefore of course restricted to short vowel variants also in the case of this particular word.

Much more important is the observation that the words that variably undergo final n-deletion in the Sittard dialect all form part of the subset that can be realized with either of both tone contours HL or HLH. This means that compared to the Rimburg dialect the domain of the rule in the Sittard dialect is structurally restricted: of the words in (37) in § 5.3.7 only the ones that can be assigned a tone contour HLH may undergo the final n-deletion rule. This implies that we should distinguish between the words that can be assigned a tone contour HLH and those that can at most be assigned HL, i.e. the ones with and those without a lexical H. Taking these facts into consideration, it comes down to the fact that variable final n-deletion separates the two dialects in the dialect equivalents of the words:

¹² As we said in § 4.4.2, it was one of the three varieties with which speakers were confronted in the 'out-group' conditions.

¹³ The entire set of relevant word can be found in (37) in § 5.3.7.

(23)	CONJUNCTION		
	/ɛn/	<i>en</i>	'and'
	ADVERBS		
	/hm/	<i>heen</i>	'away, to'
	Vfin (1 st person sing. present indic.)		
	/ɣ ¹ ɔn/	<i>ga</i>	'go'
	/dɔ ¹ n/	<i>doe</i>	'do'
	/zin/	<i>zie</i>	'see'
	/ʃtɔ ¹ n/	<i>sta</i>	'stand'
	/ʃlɔn/	<i>sla</i>	'beat'
	/kan/	<i>kan</i>	'can'
	/kn/	<i>ken</i>	'know'
	/bm/	<i>ben</i>	'am'
	Vfin (3 rd person sing. present indic.)		
	/kan/	<i>kan</i>	'can'

In the Rimbürg dialect these words may, but in the Sittard dialect these words may not undergo the deletion rule.

Another reason to distinguish between the words with and those without a lexical H is that the words with a lexical H may surface with a tone contour HLH but also with HL only. This internal variation seems to make the matter even more complicated. However, as may be clear in the light of our phonological analysis of the final n-deletion rule, this variation only exists if the /n/ is not deleted. As we demonstrated, no tone contour is possible if the /n/ is not phonetically present, since [n] is a tone bearing unit.

In case a member of the subset of words with a lexical H, i.e. the subset in (5) in the preceding section, was realized with [n] and has a tone contour HL, then for that specific instance the word was not treated as a member of the potentially HLH-bearing subgroup. Instead, it was scored as a maximally HL-bearing member of the group of variably n-deleting words. However, in all other cases this linguistic dimension was treated in principle as an 'emic' fact.

As we pointed out in § 8.4.1 above, in case the /n/ is phonetically present, there is still variation on two dimensions, namely with respect to tone contour and stress. In the paragraphs above we dwelled upon methodological details regarding tone contour, both from a dialect-geographical and from an internal perspective. It goes without saying that in our analyses also [\pm stress] was treated as an independent linguistic variable. The main reason for this is the fact that /n/ can also be deleted in case the word is stressed. In other words, both unstressed as well as stressed forms occur with and without [n]. The presence or absence of stress and the presence or absence of a lexical H are the main phonological dimensions of variation we will investigate.

In present-day phonology stress is usually operationalized as the potential of a syllable to form a prosodic foot. Phonetically, this potential requires a certain minimum degree of 'dynamic accent'. In the prosodic hierarchy, feet form the level of constituents intermediate between the syllables and the phonological word: a phonological word contains one or more feet, such that boundaries on the higher level coincide with boundaries on the lower level (see § 2.3.2 above).

In connection with our analysis of the data for final n-deletion, however, we are referring to a type of feet that may very well exceed the word boundary. This type of metrical unit may correspond to 'Abercrombian' feet, i.e. "sequences of one stressed syllable followed by a number of unstressed syllables, until we come across the next stressed syllable which starts a foot of its own."¹⁴ Since these feet may combine syllables from different words, e.g. (góod de) (térgents), the category 'prosodic word' as a supercategory of the category 'foot' is simply impossible" given this definition (Booij 1989: 224).

In the analyses of the spontaneous dialect use, we operationalized the dimension [\pm stress] as the presence or absence of sufficient stress to form an 'Abercrombian foot', i.e. the phonetic type of foot that may consist of syllables from different words. This does not necessarily mean that we commit ourselves to the theoretical conclusions suggested by Booij. Needless to add, in our analyses the linguistic dimension stress was approached as an 'etic' fact.

With respect to the variable rule for final n-deletion, there are 20 words that "in the material studied effectively occur with the old dialect variant" and thus constitute the rule's 'pragmatic potential' (Van Hout 1989: 144 - my translation, FH). These words belong to one of four classes: prepositions, adverbs, verb forms and the conjunction *en*, 'and'.

The analyses of the elicited data revealed that n-deletion occurs least frequently in this conjunction: whereas the grand mean over all four word classes for the entire sample of speakers is 35.55, for the conjunction alone this index does not exceed 7.04. Analyses of the spontaneous 'in-group' dialect use of the speakers of the Older age group showed even less n-deletion in the conjunction: 4 / 78. These four cases of use of the n-less form were realized by no more than three out of the nine speakers in this age group. We concluded that the conjunction *en* can hardly be considered to be part of the 'restrictive potential' of the rule, i.e. the group of words that are frequently realized with the dialect variant (terminology by Van Hout 1989: 144 - my paraphrase, FH).

In view of the obvious discrepancy between the pragmatic and the restrictive potential as far as the conjunction is concerned, and particularly because of the finding that the conjunction appears to be relatively uninteresting for the study of the

¹⁴ As Abercrombie's (1967: 131) operationalization of the notion, this applies to the metrical 'surface' structure.

use of the n-deletion rule, we decided not to include it in our analyses of the spontaneous speech material.

With respect to the remaining classes of words that may undergo final n-deletion some very detailed remarks have to be made.

The words *van*, *aan* and *in* do not always function as prepositions; in cases like e.g. *eraan*, lit. 'on PRO' or *aaneen*, 'together', they are part of an adverb. The same holds in case they function as the floating particle of a 'separable compound verb' (Du. 'scheidbaar samengesteld werkwoord') like *induwen*, 'to push in', *aangeven*, 'to hand, to declare, to notify', etc.

In present-day spoken Dutch, *van* is very frequently used as a conjunction introducing direct speech, e.g. in

- (24) Ik dacht *van* "Dat kan niet"
 'I thought of "That is impossible"'

The latter function of *van* was excluded from the analyses; anyway, it turned out to be rare in the spontaneous dialect use studied.

Unlike the standard language, the dialect traditionally uses *dan* only as an adverb. In comparatives (type 'bigger than') the word /wi/ or /eswi/ mostly serves as a conjunction; the relatively few cases in which /dan/ was used were left out of our analyses of the spontaneous speech. In the other cases in which the standard language uses *dan* as a conjunction (Van Dale 1984: 559), the dialect has another word. In conditional constructions of the general format 'if x, then y' in the dialect /dan/ is used - as is the case in the standard language; in this function /dan/ is an adverb (ANS 1984: 659).

Of the verb forms the auxiliaries (ik) *heb* and *hebben*, '(I) have' and 'to have' respectively, as well as (ik) *ben*, '(I) am', which is also a copula, are by far the most frequently used ones in our corpora.

As far as the right-hand environment is concerned:

1. the linguistic dimension 'monomorphemic word vs. first member of a compound word', i.e. /__ #(#) segment/ was not further taken into consideration. Prosodically it does not seem to make any difference, witness the fact that in the elicited data for our sample of speakers the n-deletion indexes were 38.27 and 41.90, respectively. This difference is not significant ($t = -0.94$ $df = 26$ $p = .358$);
2. we drew the obvious methodological consequence of the existence of the two blocking conditions (discussed in § 8.4.4), and excluded from our analyses the cases in which final n-deletion is blocked. For this purpose, we could base ourselves not only on our understanding of the blocking conditions, but as a speaker of the dialects under discussion also on our intuitions which, as we pointed out already, are straightforward in this connection. As a matter of fact, these intuitions also enabled us to leave out such cases from the elicitation tasks;

3. cases in which [m] or [n] followed were again excluded from analysis;
4. the relative sonority of the following segment was not taken into consideration, since in Dutch, and also in the Limburg dialects, /n/ can only be syllable-initial if a vowel follows. In other words, as far as the potential effect of the following segment is concerned, only the difference between consonants and vowels is relevant.

8.5.3 Methodological aspects of the analysis of t-deletion

As we demonstrated in § 5.3.14, the Limburg dialects concerned have word-final [t]s with three different types of grammatical status. The first one is part of the lexical representation (e.g. *kast*, 'cupboard', *echt*, 'true', 'truely', *jeugd* → *jeug[t]*, 'youth'). The second one is the morphemic *-t*; it occurs in verb inflection, and the two subtypes we studied are part of the inflectional system of the present indicative and of the past participle.¹⁵ The third type was baptized 'pronominal' [t], for want of a better designation. This designation is used to refer to cases of the format

- (25) $_{NP}[\text{Det} + \text{Adnom.}t + \emptyset]$
 condition: N = [neuter]

as in:

- (26a) ə dik me: tʃə 'a fat girl'
 ə dik-*t* 'a fat [one]'
- (b) mi bo-k 'my book'
 ət min-*t* 'the mine [one]'

In constituents of this type, *-t* in the adnominal word serves as a pronominal affix which marks [neuter] and functions as the head of a nounless group. As such it identifies a morphologically caseless NP as an argument.

Whereas final t-deletion after obstruents was studied in the elicited material for all three grammatical types, the spontaneous dialect use was analysed for the first two types only. The main reason for this was the very low mean frequency of use of constituents of the types in (25) and (26). In the majority of cases not even the minimum amount of four relevant observations per speaker per conversation would have been reached. The analyses of the LV t-deletion were thus limited to the first two grammatical types, 'lexical' and morphemic (present indic. and past participle) ones.

¹⁵ In § 5.3.14 we showed that the latter is underlyingly /d/. It is subject to the automatic rule of final devoicing.

Whereas, compared to the analyses of the elicited data for the LV t-deletion, the range of grammatical types studied was reduced, the analyses were extended in a phonological respect by adding the nature of the following segment to the linguistic dimensions of variation. In several studies both the preceding and the following segment were found to influence the amount of t-deletion.

In connection with the preceding segment we continued to distinguish between fricatives and stops. Independently of whether or not /ts/ is to be analyzed as a fricative phonologically (cf. § 5.3.6 above), our view on the natural class of the preceding obstruent was phonetic, so [ts_] has invariably been scored as a preceding fricative. With respect to the following segment two different hypotheses will be tested. One is: the Vocalic vs. Consonantal nature of the following segment is relevant to final t-deletion after obstruents. Since /Obstruent t ## Vowel/ is a less 'complicated' cluster than /Obstruent t ## Consonant/, t-deletion can be expected to occur less often before vowels than before consonants. The other hypothesis is more subtle, in that it assumes t-deletion to be gradually dependent on the relative sonority of the following segment. The higher the sonority value of the next segment, the higher the chances are that the /t/ or /d/ will be involved in a process of resyllabification, so that deletion is expected to take place less often.¹⁶ In contrast to final n-deletion, the sonority scale

$$(27) \quad O < N < L < G < V$$

does appear to be relevant in this connection, witness the existence of words with initial clusters /t Glide/, for example

(28a)	<i>twee</i>	'two'
	<i>twinkelen</i>	'to twinkle'
	<i>tja</i>	'well, humph' interj.
	<i>tjokvol</i>	'chock-full'

and /t Liquid/, at least as far as 'r' is concerned e.g.

(28b)	<i>trap</i>	'stairs, kick'
	<i>trillen</i>	'vibrate, tremble'

To test both hypotheses, with respect to the right-hand environment in the analyses of the spontaneous speech we used two classifications:

- C or V (or pause), and
- sonority: 1 to 5.

¹⁶ Cf. Moosmüller 1987: 45 footnote 64; Van Hout 1987: 10 sub 2.

In case a following vowel was preceded by an audible glottal stop, then this stop was of course treated as the following segment, namely as a consonant in the first classification and as an obstruent¹⁷ in the second. The exact relationship between the classifications adopted to test the above hypotheses is visualized in Table 8.8.

C/V/p	2 major class features	natural class	sonority value
cons	+ cons - son	obstruent	1
	+ cons + son	nasal	2
		liquid	3
	- cons + son	glide	4
vowel		vowel	5
pause			

Table 8.8 The classification of the right-hand environment in connection with the LV t-deletion

To test the first hypothesis, for each speaker for each condition, i.e. for __C, for __V and for __pause, we calculated indexes of the regular type

[n cases of use of the dialect feature / n cases of use of the LV]. For these indexes, t-deletion was treated as a continuous variable: the realizations were scored on a three-point scale (see § 4.5.3).

To test the second hypothesis, two indexes were calculated per speaker per conversation:

[sum of the sonority values for all cases of no t-del / n cases]
and

[sum of the sonority values for all cases of t-del / n cases]

For these indexes, t-deletion was treated as a binary variable, and only complete absence of [t] was scored as a case of deletion. The five positions on the sonority scale are represented in roughly equal proportions in this part of the data. By calculating

¹⁷ Unlike Schane 1973: 20 and Halle & Clements 1983: 33, we do not regard [ʔ] as a glide. At least in this dialect, articulatorily [ʔ] has an unmistakably 'plosive' character. Moreover and more importantly, distributionally it is only partly comparable to other glides in the dialect, in particular to /j/ or /w/. First, it is never part of the lexical representation. Second, it occurs not only in heterosyllabic sequences of certain vowels (*naäpen*, 'to imitate', *beamen*, 'to assent to', *paella*, 'paella'), as is the case with glides, but also in underlyingly vowel-initial Dutch words - or probably in onsetless syllables generally. Cf. § 5.3.15; also Sluyters 1992: 48-50.

indexes of this type we treat the ordinal variable sonority as an interval variable - although this does not imply that we look upon sonority as such. The numbers of observations per speaker certainly allow this approach.

Excluded from the analyses were

1. all cases in which a [t] or [d] followed,
2. all instances in which a 'lexical' [t] was part of the first member of a compound word (cf. § 5.3.14), and
3. all cases where the [t] was not word-final because it was followed by e.g. the diminutive suffix - independently of the allomorph used (cf. §§ 5.3.5, 5.3.14 and 7.4).

8.5.4 Remarks of a more general nature

With respect to both n-deletion and t-deletion, and independently of whether or not the rules were applied, following "erm" or "ehm" was in principle classified as constituting a following vowel, since it has a shwa as initial segment.

Under certain conditions the analysis of a following vowel in connection with n-deletion differs from that with respect to t-deletion. With respect to the LV n-deletion, independently of whether or not a glottal stop was inserted, a following vowel was always interpreted as a following vowel. In case the rule is applied before a vowel, the presence of a glottal stop is a consequence of the resulting structure, namely the hiatus that needs to be filled between two adjacent vowels. With respect to the LV t-deletion after obstruents, however, a following glottal stop has another status. Its occurrence does not appear to be dependent on whether the rule is applied or not. Since neither application nor non-application of the t-deletion rule results in hiatus, the presence of a glottal stop must be independent of the rule. So irrespective of application or non-application- with respect to n-deletion both [__V] and [__? V] were analysed as V;

- with respect to n-deletion both [__V] and [__? V] were analysed as V;
- in connection with t-deletion, [__V] was analyzed as V, but [__? V] was analysed as a stop (an obstruent and a C respectively).

Of course, with respect to t-deletion, in each single instance of a following [__? V] the question can be asked which was first: non-resyllabification (in which case /ʔ/ must be inserted) or the insertion of /ʔ/ (in which case resyllabification is excluded). This problem plays a much smaller role than the general consideration that, apparently independent of whether or not [t] is deleted, in these cases the following syllable simply does not have a phonetically empty onset.

A linguistic dimension common to the analyses of the use of all three LVs in the spontaneous speech material was the vocalic vs. consonantal nature of the following segment. Even on this point there are some differences, though. In the dialects studied, the only C that can possibly follow a syllable-initial /ɣ¹/ and its weakened

variant is a liquid. In connection with final t-deletion, it should be noted that the following segment is always preceded by a word boundary; in connection with final n-deletion, the following segment is always preceded by a morpheme boundary and usually by a word boundary. Finally, with regard to the two deletion variables it should be noted that a word-final /t/ after an obstruent is extrasyllabic, so that in a way it is less tightly incorporated in prosodic structure than /n/.

Chapter 9

Findings for the in-group conversations

9.1 Introduction

As may be recalled from section 4.4, the spontaneous speech material that we collected consists of two corpora, namely those of in-group and of out-group conversations. Whereas in the out-group conversations each speaker was confronted individually with a speaker of another variety, in the in-group conversations three speakers of the same age group participated. For that purpose, the nine representatives of each age group were divided over three groups of three speakers. In the present chapter, attention will be focused on the findings for the in-group dialect use and the processes of levelling it reflects. In the next chapter we will discuss the findings for the out-group conversational speech. In Ch. 11 the two will be systematically compared in order to test the third sociolinguistic hypothesis.

The recordings of each of the nine conversations all lasted about an hour; from each conversation between 20 and 30 minutes of interactive dialect use was analysed (depending mainly on the speaker and the LV concerned). These first analyses of the speech material itself led to 2698 observations for the entire sample of speakers, which comes down to an average of about 900 per LV, 100 per speaker, and 33 per speaker per LV.

The analyses of these data and their results will be presented in the same manner as those regarding the elicited dialect use in Ch. 6: first, the overall use of the three dialect features will be examined (section 9.2), then the use will be related to age group in order to assess whether or not changes are taking place (section 9.3). Apparent time changes in the use indicative of levelling will be related to both linguistic and to extra-linguistic factors. As we announced in the previous chapter, the analyses will gain depth by introducing 'new' independent variables, linguistic ones and extra-linguistic ones. § 9.4 contains a summary of the main findings and an evaluation of hypotheses I and II.

9.2 Use of the dialect features. Overall patterns

In this section we will first look at overall patterns in the occurrence of the dialect features. Then we will establish the role of the speaker background variables in the in-group use of the dialect features (§ 9.2.1).

In Table 9.1 the average frequency of use of the three dialect features in the in-group conversations is presented along with the standard deviation. The figures show

that the variance (s^2) in the use of these features turns out to be inversely proportional to their mean use.

	\bar{X}	s
γ^l -weakening	31.62	32.06
n-deletion	45.06	13.18
t-deletion	80.32	11.91

Table 9.1 Mean and standard deviation of the in-group use of the dialect features

Another thing which deserves attention is the fact that the average use of the dialect features increases with their areal spread. The effect of the spread of the dialect features on their in-group use is highly significant ($F=37.26$ $df=2,52$ $p=.000$).

Moreover, as far as their use is concerned, the dialect features are not significantly correlated, so they do not covary to an interesting degree. Rather, the three dialect features appear to have their own specific patterns of occurrence - cf. Table 9.2.

	n-deletion	t-deletion
γ^l -weakening	.3244 (.099)	-.2957 (.134)
n-deletion		-.3579 (.067)

Table 9.2 Pearson correlation coefficients between the dialect features (two-tailed probabilities; $n=27$)

Apparently there are no clear linear relationships between these dialect features. This finding suggests that each of the three features indeed forms an independent dimension.

9.2.3 The role of the speaker background variables

On the basis of their answers to ten questions concerning socio-biographical facts, for all speakers in our sample (except one) six indexes were calculated regarding macro-social variables. Two bundles of background variables can be distinguished, the first of which is a geographical, and the second a socio-economic group of variables. The

dialect levelling; in the present section we concentrate on patterns in the dialect use as such.

The first step in our study of the role of these speaker background variables consisted of the calculation of their correlation with the overall use of the three dialect features. We had specific expectations regarding the direction of the effect of each of these variables: whereas dialect use in general can be expected to be positively related to the autochthony of the speakers, the factors geographical mobility, educational background and occupational level can in general be assumed to be negatively related with dialect use. For this reason, one-tailed probability values of the correlation coefficients were determined.¹ Consider Table 9.3.

	γ^1 -weakening	n-deletion	t-deletion
autochthony	.3404 (.044)	.3428 (.043)	—
geogr. mob. <i>a</i>	-.6353 (.000)	-.3450 (.042)	—
geogr. mob. <i>b</i>	-.7159 (.000)	-.3498 (.040)	—
education	-.5086 (.004)	-.3366 (.046)	—
occupation	—	—	-.3291 (.050)
SE background	-.3656 (.033)	-.3443 (.042)	—

Table 9.3 Significant correlations between the use of the three dialect features and the speaker background variables (one-tailed probabilities)

One of the most remarkable findings is the fact that the significant correlations between the speaker background variables and the dialect features show a complementary pattern. More specifically, both γ^1 -weakening and n-deletion are significantly correlated with the speakers' autochthony, with the two indexes for geographical mobility, the one for education and with SE background, but not with occupation. Word-final t-deletion, on the other hand, is not significantly associated with any of these speaker background variables, but does correlate with the speakers' occupational level.

¹ Because these speaker background variables were operationalized as ordinal variables, non-parametric correlation coefficients were calculated. The table contains Spearman's rho's.

All significant correlations have the predicted direction. Some of the 'effects' exercised on γ^1 -weakening are moderate to strong (geogr. mob. *b*), but those on the other two dialect features are very weak.

The situation that SE background correlates significantly with an LV without education or occupational level doing so as well does not occur. In both cases in which SE background exhibits a significant relation with a dialect feature, there appears to be a moderate relation with education as well. For this reason, it was decided to eliminate the 'umbrella variable' SE background. As far as the socio-economic dimension is concerned, further analyses were thus restricted to the 'simple variables' education and occupational level.

A comparable decision had to be made regarding the geographical dimension, and specifically with respect to the index for geographical mobility. For this variable, two indexes were constructed, in both of which the places west of the Benrath line have a special status. This isogloss bundle demarcates the western edge of the A-type Limburg dialects. For the construction of the *a*-index, the kilometres west of the Benrath line were doubled. For the *b*-index *only* the kilometres west of the isogloss bundle (which were not doubled this time) were added up. On the basis of the total amount of kilometres per speaker, for both indexes the rank-order of all speakers was determined (see § 4.3.3 above for a complete account). As we saw in Table 4.3 (§ 4.3.3 above), index *b* systematically bears weaker correlations with the other speaker background variables than index *a*; in other words, index *b* is less tightly embedded in the other speaker background variables. Therefore it probably has more autonomous predictive power as to dialect use. The findings regarding the correlation of both indexes with the frequency of use of the three dialect features, presented in Table 9.3, confirm this. Although *a* and *b* do not differ with respect to the (number of) LVs with which they are significantly correlated, index *b* shows higher coefficients. For these reasons, as far as the speaker background variable geographical mobility is concerned, further analyses were restricted to the *b*-index.

Four speaker background variables remain, two in each 'dimension'. These four variables served as predictors in stepwise multiple regression analyses.² These analyses were performed to determine whether and to which degree the speaker background variables contribute to the use of each of the three dialect features. The technique also makes it possible to establish whether together they produce a better picture than separately.

The application of the rule for γ^1 -weakening appeared to be sensitive only to the geographical mobility of the speakers ($\beta = -.575$ and %var = 33.0 $p = .002$). Geographical

² The probability of F-to-enter was .05 and the probability of F-to-remove was .10. By involving them in regression analyses, we treat the speaker background variables as if they were continuous variables, although they were measured on an ordinal level. The data regarding the use of the three dialect features are continuous in nature.

mobility also turned out to be the only significant macro-social feature which is capable of 'explaining' an interesting part of the variance in our speakers' use of the n-deletion rule ($\beta = -.421$ and $\%var = 17.8$ $p = .032$). With respect to t-deletion, findings are even 'worse': none of the four speaker background variables studied reached the .05 level for predictors to be entered into the equation. In other words, none of these speaker features can be said to contribute significantly to the variation in the use of the rule for word-final t-deletion.

To summarize, the application of both the rule for γ^l -weakening and the rule for n-deletion appears only to be sensitive to one and the same speaker background variable, which lies in the geographical dimension. The frequency of t-deletion does not appear to be sensitive to any of the variables in the two dimensions of speaker background. Seen from the angle of the speaker background variables, in the geographical dimension it is only mobility that appears to count, in the socio-economic dimension none of the variables seems to play a role as far as the use of the dialect features in in-group conversations is concerned. The returns of these analyses are poor, but not really surprising with regard to their content, when compared to the results in Table 9.3.

9.3 Apparent time changes in the use of the dialect features. Overall patterns

In the first chapter, the notion of dialect levelling was defined as the reduction of structural variation. As we concluded in Ch. 7 and argued in § 8.2, not all that should be interpreted as dialect levelling consists of the loss of dialect features. A reduction of structural variation, i.e. a growth of the structural homogeneity across dialects, can result either from a decrease in the occurrence of small-scale dialect features or from an increase in the occurrence of areally relatively widespread phenomena.

Independent of the direction it takes, an ongoing process of dialect levelling may manifest itself synchronically in dialect use, in which case the apparent time method may make it visible. Here we will study dialect use in relation to the age group of the speakers, and thus trace dialect levelling in apparent time.

As a first step we will look at the age group patterns in the overall occurrence of the dialect features. Then we will relate the age group patterns in the use of the dialect features to the linguistic dimensions (§ 9.3.1). In §§ 9.3.2 and 9.3.3 we will attempt to assess the role of the speaker background variables in the apparent time patterns in the in-group use of the dialect features.

γ^l -weakening

The γ^l -weakening rule has not been lexicalized and is still productive, witness the fact that recent loanwords like /pro γ^l ram/, 'program', are sometimes realized with a [j].

Nevertheless, an extremely dramatic decrease in the spontaneous in-group use of the rule appears to be taking place, as can be seen in Table 9.4.

age group		\bar{X}	s	F	df	p	%var
Older	9	68.65	20.60	31.313	2,24	.0000	65.19
Middle	9	19.76	21.66				
Younger	9	6.44	5.67				
entire sample		31.62	32.06				

Table 9.4 Analysis of variance: mean and standard deviation of the use of the γ^1 -weakening rule in the three age groups; the probability and the explained variance

For the Roermond dialect, Hamans (1985) argues against dialect loss on the basis of his finding that in this dialect the morphophonological rule of umlauting is still generally productive. The above facts prove that productivity is no guarantee against loss.

Remarkably, in the Berlin vernacular the use of the rule which changes /g/ into [j], which is structurally similar and historically identical to Rimbürg γ^1 -weakening, does not exhibit any age group effects (Schlobinski 1987: 117, 162). This may mean that there is nothing in the nature of the dialect feature itself which causes loss. It must be noted, however, that the German standard variant /g/ differs from the Dutch one, which is /ɣ/ or /ɣ¹/.

n-deletion

Although the age group effect on the use of the rule for final n-deletion just does not reach the .05 level of significance, it is obvious that the use of this rule cannot be considered to be stable. Rather, there appears to be a wave-like, downward movement. Consider Table 9.5.

The age group effect is not significant, and the differences between the separate age groups are not significant either.³ Nonetheless, there seems to be a tendency of this dialect feature to waver away.

³ Witness the results of both the Student-Newman-Keuls and the Scheffé range-tests no two groups are significantly different at the .05 level.

age group		\bar{X}	s	F	df	p	%var
O	9	53.08	11.55	3.184	2,24	.0594	9.84
M	9	38.95	5.16				
Y	9	43.14	16.92				
entire sample		45.06	13.18				

Table 9.5 Analysis of variance: mean and standard deviation of the use of the n-deletion rule in the three age groups; the probability and the explained variance

t-deletion

The age group effect on the use of the rule for the deletion of word-final [t] after obstruents is very significant. However, instead of loss, this dialect feature appears to be undergoing an increase in use. This confirms an expression we got from the (non-significant!) age group patterns in the elicited use of this rule; cf. § 8.2 above. See Table 9.6.

age group		\bar{X}	s	F	df	p	%var
O	9	73.14	9.21	4.379	2,24	.0239	26.67
M	9	79.89	12.06				
Y	9	87.93	10.37				
entire sample		80.32	11.91				

Table 9.6 Analysis of variance: mean and standard deviation of the use of the t-deletion rule in the three age groups; the probability and the explained variance

The findings regarding the apparent time patterns in the use of the three dialect features presented so far sufficiently explain the negative correlations between t-deletion and the other two dialect features (see Table 9.2 above).

The main extra-linguistic difference between the three dialect features is their geographical spread. Whereas γ^1 -weakening, a rule with a relatively small geographical spread in the Dutch language area, is apparently in the process of being lost, final

t-deletion, a rule with a very wide areal diffusion, displays an increase in use. This finding is in line with Thelander's conclusion that "the most powerful basis for determining the vitality of a dialect variant in present-day Burträsk would seem to be its geographical dispersion" (Thelander 1982: 72 - cf. § 1.3.3 above). The two possible manifestations of dialect levelling, a decrease in the use of small-scale dialect features and an increase in the use of geographically relatively widespread dialect features, appear to cooccur in the Rimbürg dialect. On a more general level, the net result of each of these two types of development is, of course, a more even and uniform dialect landscape. Final n-deletion, a rule with a geographical spread which is intermediate between that of the other two, does not show a significant age group effect.⁴ No change appears to be taking place in the occurrence of this dialect feature, but it is not stable either. See Figure 9.1.

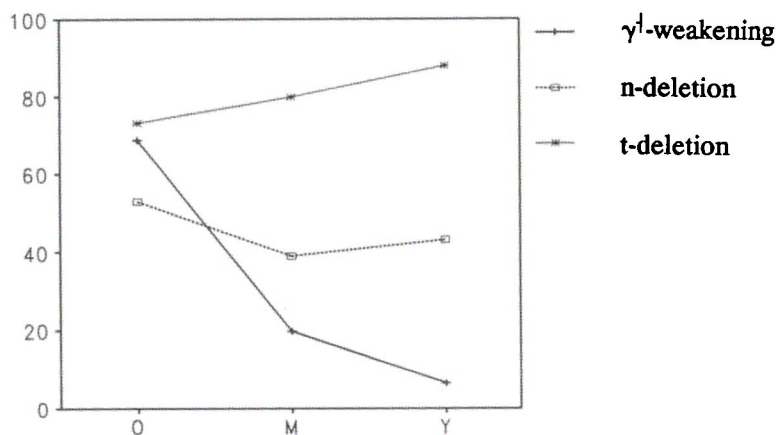


Figure 9.1 The in-group use of the three dialect features in the three age groups

To test whether the apparent time patterns in the use of the three dialect features are significantly different, we performed an analysis of variance with features (within subjects) and age group (between subjects) as independent variables and the overall use of the dialect features as dependent variable. The findings are presented in Table 9.7.

Our interpretation of the differences between the apparent time patterns in the in-group use of these dialect features is supported by the high significance of the interaction effect. The main effects for both age group and dialect features are significant. The latter is visible in the figures regarding the mean overall use of the features

⁴ The part of the variance in the use bound by the variable age group is smallest in the case of n-deletion.

presented in Table 9.1 above. The interpretation of the age group effect only seems to make sense in the light of the interaction between the speakers' age groups and the dialect features described above. From the behaviour of these features in the course of (apparent) time it seems as though the three dialect-geographical types of LV we distinguished are taking shape.

source	df	MS	F	p
between ss.				
within cells	24	192.86		
age group	2	3229.38	16.75	.000
within ss.				
within cells	48	188.52		
dialect features	2	17085.33	90.63	.000
interaction age group				
x dialect features	4	3698.52	19.62	.000

Table 9.7 Analysis of the variance. The effect of the speakers' age group on the in-group use of the dialect features (both factors fixed)

So far, the findings support the hypotheses

- I. the levelling process concerns variation on the dialect - standard language level (namely with respect to t-deletion, which occurs in the regional standard variety) as well as variation of the interdialectal type (with respect to γ^1 -weakening - albeit in the opposite direction), and
- II. levelling is gradual in time (age groups) and in space (areal spread of the three LVs).

9.3.1 Apparent time changes in the use of the dialect features: linguistic dimensions

In this subsection we will try to find out whether and how levelling is specific to linguistic conditions, and whether -more specifically- and how it is directional in any of the linguistic dimensions involved. The answer to these questions will also enable us to evaluate the part of the second hypothesis according to which levelling is gradual structurally.

γ^1 -weakening

The use of the γ^1 -weakening rule shows a significant decrease in all eight linguistic conditions studied. The most important results of the statistical analyses are presented in Table 9.8.

significant interaction effect age gr. x ling.dim.?					
	F	df	p	%var	
between words (before vowel)	10.258	2,24	.0006	43.88	–
within words	34.045	2,24	.0000	65.25	
part of lexeme	23.702	2,24	.0000	59.11	–
part of bound morpheme	74.793	2,24	.0000	75.09	
word-initial	28.258	2,24	.0000	64.09	–
word-internal	27.217	2,24	.0000	55.76	
(within words) before vowel	35.256	2,24	.0000	66.10	–
before liquid	30.623	2,24	.0000	58.87	

Table 9.8 Analyses of variance. Significant effects of the variable age group on the use of the γ^1 -weakening rule in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

In each single linguistic condition, the use of the rule takes on the ideal-typical pattern of loss: Older > Middle > Younger. For each condition, the differences in mean use between O and M as well as those between O and Y are significant (SNK and Scheffé, $p \leq .05$). In their use of this LV in each single linguistic condition, the speakers of the Middle and Younger age groups together form one homogeneous subgroup. In short, the differences in the frequency in the use of the γ^1 -weakening rule between the Middle and the Younger age group are never significant. This means that, independent of the linguistic condition, there is a sharp break between the Older speakers and those of the Middle age group.⁵ However, for each separate condition, the means per age group show that the decline continues from Middle to Young, so to speak.

As far as our in-group data are concerned, before a liquid

- the speakers of the Middle age group have an average γ^1 -weakening index of no more than 3.37;
- none of the Younger speakers was ever found to apply the rule.

⁵ Cf. the section 'Time and space' in § 6.4.2 above.

Nevertheless, even the dimension 'nature of the following segment' does not appear to have a clear effect on the levelling process (any more, we interpret), and neither do the other three linguistic dimensions, as appears from the absence of a significant interaction effect between age group and dimension.

n-deletion

In spite of the absence of a significant age group effect on the overall in-group use of the n-deletion rule, in 4 of the 14 linguistic conditions in which this LV was studied an apparent time change appears to be taking place - see Table 9.9.

significant interaction effect age gr. x ling.dim.?				
	F	df	p	%var
I-lowering not relevant	3.438	2,24	.0486	9.30
adverbs	7.934	2,24	.0023	25.31
with lexical H	4.914	2,24	.0163	13.64
before consonants	4.459	2,24	.0226	22.98

Table 9.9 Analyses of variance. Significant effects of the variable age group on the use of the n-deletion rule in several linguistic conditions. The significance of the effect of the interaction between age group and linguistic dimension

Four of the six linguistic dimensions studied seem to be of interest with respect to the changes that appear to be going on in the use of the rule. Of these four dimensions, only the one underlying the last condition mentioned in the table, i.e. the nature of the right-hand environment, appears to have a significant effect on the change in the use of the rule ($F=2.65$ $df=4,38$ $p=.048$).

In the first three linguistic conditions listed in Table 9.9, the apparent time pattern in the use of the n-deletion rule appears to be $O > Y > M$.⁶ However, except for the words to which the condition 'I-lowering is not relevant', the differences between the means for the Middle and the Younger age groups are not significant. The ideal-typical pattern of loss $O > M > Y$ only occurs before consonants - which forms part of the only dimension that is of importance to the process of the loss of this rule.

⁶ This age group pattern was also found on the level of overall use (Table 9.5). On that level, it does not reach the .05 level of significance, however.

Let us consider the linguistic conditions in which the application of the n-deletion rule shows significant differences between the age groups. It seems as if relevance of the rule for I-lowering has a conserving effect on the n-deletion rule. That is, use of the n-deletion rule does not decline in words that have -m#, but it does in words that do not have -m#. This finding supports the assumption that the rules are naturally ordered; in case the rules had been in a bleeding order (1. n-deletion, 2. I-lowering), one might have expected the loss of the n-deletion rule to be more advanced in words which also satisfy the structural description of the variably I-lowering words, for that would have undone the bleeding. After all, giving up the deletion rule would be relatively easy because of its variability.

The only word class in which the occurrence of the final n-deletion rule shows a significant apparent time decrease is the adverb. This is quite remarkable in the light of the finding that adverbs are the word class in which the rule applies most often.⁷ In prepositions and verbs the use of the n-deletion rule seems to be decreasing as well (with the same age group pattern O > Y > M), but in those classes the change does not reach the level of significance.

As far as tone is concerned, the use of the n-deletion rule also shows a significant decrease in the condition with the highest sample mean in the use of the n-deletion rule, i.e. in words with a lexical High tone, i.e. the ones that can be realized with either HL or HLH. The chance for a significant age group effect in case the sample mean of 61.43 may be bigger than in case the sample mean is 25.64 (average sample index of n-deletion in words lacking H, i.e. the ones that can only be realized with HL) on a scale ranging between 0 and 100. Moreover, it is hard to see why lexical information regarding tone contour, which in these dialects need not be phonetically realized anyway, should determine changes in the use of a postlexical rule like final n-deletion.

On closer inspection, the tone contour seemed to be at best an intervening factor; the hypothesis emerged that it is really the frequency of occurrence of the respective words that determines their relative vulnerability to the process of n-deletion as such. To test this hypothesis we proceeded as follows: for each of the words in the two groups, we determined the total frequency of occurrence in the corpus of spoken Dutch on which Eveline de Jong (ed. 1979) is based.⁸ The total corpus frequencies of use for all words in each of the two groups were then added up and the means were calculated. The outcomes are given in (1):

⁷ For our sample of speakers the indexes for the spontaneous in-group-application of the n-deletion rule are 59.97 in adverbs, 48.14 in prepositions, and 28.30 in verbs forms ($F=24.92$ $df=2,52$ $p=.000$).

⁸ Known as the 'Corpus Heikens'; the speech material was collected in Amsterdam. We based our calculations on the data in list 'A1' (pp. 27-78) in the book just mentioned, which is one of the standard accounts of word frequencies in spoken Dutch.

- (1) mean absolute frequency of use of the n-final monosyllabic words which in the dialect may bear HLH: 1258.80 (standard deviation 756.54)
 mean absolute frequency of use of the n-final monosyllabic words which in the dialect may bear HL:⁹ 130.75 (standard deviation 131.72)

On average, the words which may be realized with a tone contour HLH, i.e. those with a lexical H, appear to be used much more often than those which may be realized with HL, i.e. those without a lexical H. This indicates that it may very well be the difference in general frequency of occurrence between the words in the two groups which brings about their difference in the *amount of n-deletion*. In that case we are dealing with different degrees of wear and tear. The question now arises whether the higher frequency in use may explain the *loss of the n-deletion rule*. We have no plausible answer to this question.

As far as the right-hand environment is concerned, it is quite striking that the only significant apparent time decrease in the application of the n-deletion rule occurs before consonants, the only condition where a decrease would not have been predicted on linguistic grounds. Before a vowel the rule is also losing ground - the process is even temporally gradual:

Older 29.36 Middle 19.20 Younger 13.66

but the age group effect is not significant. The most remarkable finding in connection with the right-hand environment is, however, the enormous increase in the use of the rule before a pause:

Older 44.69 Middle 43.89 Younger 73.29

but here the age group effect is not significant either. Just as is the case in the condition 'before a vowel', the reason is the relatively large amount of within age group variance. The amount of variation in the use of the rule in these conditions within each of the three age groups is too large to allow for the conclusion that the variation between the age groups is of significance. The essence of the interaction effect between linguistic dimension and age group is the fact that the application of the deletion rule is diminishing before consonants and vowels but increasing before pauses.

As we pointed out already, linguistic forces do not seem to be responsible for the loss of n-deletion before consonants, the right-hand context in which the rule is used most often. However, on a more general level there is still a negative factor of an extra-linguistic nature, namely the dialect-geographical isolation of the rule.

⁹

Since we excluded the conjunction *en*, 'and', from our analyses of n-deletion in the spontaneous dialect use (for reasons that were expounded in § 8.5.2), we present figures for the group excluding this word. Inclusion renders a mean absolute frequency of 317.54 and s=685.18.

Despite the clear overall increase in the use of the *t-deletion rule*, no significant age group effects were found in its use¹⁰ in any of the nine linguistic conditions. Not surprisingly, none of the four linguistic dimensions that these conditions constitute have a significant effect on the age group patterns in the application of the rule.

The fact that the proportion of linguistic conditions in which levelling occurs decreases from γ^1 -weakening (8/8) via n-deletion (4/14) to t-deletion (0/9) can be seen as additional evidence in favour of the hypothesis according to which levelling is gradual. This manifestation of graduality is complicated, however. The best way to describe it may be to say that we are dealing with an interplay between linguistic and geographical graduality.

9.3.2 The role of speaker background variables in apparent time changes in the use of the dialect features

In § 9.2.1 we studied the effects of some macro-social speaker background variables on the in-group use of the three dialect features. In the analyses we presented in this connection, the use of the dialect features was eventually related to four speaker background variables: the indexes for autochthony and geographical mobility (*b*) were selected to represent the geographical dimension, the indexes for education and occupational level were chosen to represent the socio-economic dimension in the speakers' background.

In this section, we have so far studied the effect of the speaker variable age group on the use of the LVs, which enabled us to trace possible instances of dialect levelling. As we pointed out already (§ 8.5 above), age group cannot as such be considered as an explanatory factor, and neither can age group effects be considered as self-contained effects. In the preceding subsection we established that the linguistic dimensions involved in our analyses of the use of the three dialect features do not explain very much of the age group patterns. In the last part of this chapter, we will therefore try to find out how the four macro-social background variables are related to the age of the speakers as far as their use of the dialect features is concerned. This may enable us to explain (in a probabilistic way) the instances of levelling we have detected in the Rimburch dialect. There are two ways of tackling this problem. However, first of all we should consider the question whether the required analyses should be based on the speakers' age group or rather on their years of age.

In the above analyses, we were dealing with age group, with the values Younger (20-30 years), Middle (40-50) and Older (60-75). In connection with the apparent time method applied and the related statistical techniques, this operationalization suits our

¹⁰ See Hinskens & Van Hout 1994 for a comparison between the Rimburch patterns of t-deletion in spontaneous speech with findings for similar data for the urban dialect of Nijmegen. Cf. Hinskens 1995b (§ 2.3.2) on phonological aspects of the *variation* in t-deletion in the Rimburch in-group data.

purposes very well. For the purpose of the further analyses, however, years of age is preferable, because it is numerically non-reduced and therefore more precise. Moreover, since it is a continuous variable, it is a more natural operationalization of the factor time. Table 9.10 contains the results of linear regression analyses with the non-trichotomized index years of age as the predictor variable.

predictor	criterion	b	β	t	p	%var
years of age	γ^l -weak.	1.428	.860	8.440	.000	74.0
	n-del.	.244	.345	1.839	.078	11.9
	t-del.	-.293	-.457	-2.572	.016	20.9

Table 9.10 Findings from linear regression analyses for the speakers' years of age

It is worthwhile to compare the probability values and the parts of the explained variance in the use of the three dialect features with those for the variable age group in Tables 9.4 to 9.6 above. No differences exist as regards the significance of the effects: again γ^l -weakening and t-deletion turn out to be significantly related to the speakers' age. The findings for %var, however, show that the index years of age has a higher discriminatory capacity. Hence, using years of age is not an essentially different approach, although it increases the accuracy of our analyses. Neither conclusion comes as a big surprise.

As far as dialect use is concerned, the interrelatedness of the speakers' ages and the four macro-social speaker background variables can be traced in two ways. The first approach is based on the assumption that there is a triangular connection between age (i.e. time), speaker background (in which Van Hout's "societal developments" are probably reflected - cf. § 8.5 above) and dialect use. This insight can be depicted as in Figure 9.2.



Figure 9.2 The interrelatedness of the speakers' age, background and dialect use to be investigated

All three relations have already been studied quantitatively:

- years of age - background (Table 4.3 in § 4.3.3)
- background - use of the three dialect features (§ 9.2.1)

- age - use of the three dialect features (§ 9.3; Table 9.10).

Since significant relations were found in each of the three respects, it appears wise to calculate partial correlation coefficients with the use of the dialect features, in order to separate the age effect from the effects exercised by the four macro-social variables. Table 9.11 contains the coefficients for the correlation between years of age and the use of the three dialect features, both before and after partialling out the macro-social background variables.

	γ^1 -weakening	n-deletion	t-deletion
years of age	.8604 (.000)	.3451 (.039)	-.4574 (.008)
years of age partial	.7954 (.000)	.3011 (.087)	-.5408 (.005)

Table 9.11 Correlation and partial correlation coefficients between the use of the three dialect features and the speakers' years of age (one-tailed probabilities)

Partialling out the four speaker background variables leads to a weakening of the correlation between age on the one hand and γ^1 -weakening and n-deletion on the other; the association between age and n-deletion is no longer significant. In other words, in the case of these two dialectal rules, a part of the age effect is clearly due to variation in the four background variables. The correlation coefficient between age and the use of the rule for word-final t-deletion, on the other hand, increases as a result of the elimination of the part of the effects due to the four macro-social variables; with this improvement, the role of chance is further reduced.

This analysis gives us an idea of the part of the effect of the speakers' age that is independent of the four speaker background variables. If we square the correlation coefficients, this part can be expressed in percentages of explained variance (%var). The %vars in the use of the three dialect features of the speakers' years of age before partialling out the four macro-social background variables were given in Table 9.10 above. After having partialled out these variables, the %var of years of age in the use of the γ^1 -weakening rule is 63.3, in n-deletion it is 9.1%, and in t-deletion 29.2%. So the part of the variance in the application of the γ^1 -weakening rule which is explained by our speaker background variables rather than by age is 10.7%; in connection with the application of the n-deletion rule it is only 2.8%. Quite strikingly, the four background variables appear to suppress rather than contribute 8.3% of the variance in the use of the t-deletion rule which is explained by the age of the speakers.

This approach permitted a first insight into the relation between the speakers' age and the four macro-social background variables as regards the use of the dialect features.

In the remainder of this subsection we will consider the second way of tackling the problem how the speakers' age is related to the four macro-social speaker background variables as far as dialect use is concerned. This second approach consists of 'weighing' the importance of age and each of the four speaker background variables to the use of the dialect features. In the analyses that were performed for this purpose, all variables are simultaneously involved - as they are in 'real life'. This exercise has the secondary goal of explicitly testing the assumption that age effects can be traced back to "general societal developments".¹¹ As far as the developments alluded to are reflected in our macro-social background variables, the assumption would be borne out if the speakers' years of age would be outweighed by the macro-social background variables. Multiple regression analyses were performed to test this prediction; the results are presented in Table 9.12 overleaf.

As we saw in § 9.3 (as well as in Table 9.10), two of our dialect features show significant age effects, namely γ^1 -weakening and t-deletion. For these two features the prediction should be borne out. However, in both cases the speakers' age occupies the major place among the predictor variables; in neither of the cases is age ousted by any of the speaker background variables. To a certain extent, this even holds for the use of the final n-deletion rule: as was to be expected anyhow in the light of the earlier findings (effect age group $p=.059$; effect years of age $p=.078$), years of age was not entered into the regression equation.

We establish that the macro-social speaker background variables do not take over the role of the variable years of age in the cases where we expected them to, i.e. in connection with the use of the dialect features γ^1 -weakening and t-deletion. However, instead of concluding that the assumption is not correct, for the moment we will take the position that there is something wrong with our speaker background variables: either they are not the right ones, or their operationalization is not adequate. In connection with these background variables there are indeed two methodological reasons why the present approach is partly illegitimate. The first is the fact that we keep treating the four macro-social background variables as continuous variables, although they were measured on an ordinal scale (pointed out in § 9.2.1 above). The second is the fact that only the factor age group was systematically varied in our sample of speakers. We tried to homogenize the sample in the first place for the speaker background variables autochthony, education and occupational level. Within the margins that we set (§ 4.3.3 above), the sample-internal variation in autochthony is relatively limited, whereas that in educational and occupational level is moderate - as is the variation in geographical mobility. In short, with respect to these speaker

¹¹ Mattheier 1980a: 140-58; Van Hout 1989: 324. See § 8.5 above.

γ^2 -weakening

	step predictor	b	β	t	p	MR	%var
I	years of age	1.479	.854	8.026	.000	.854	72.9
	(F=64.41 df=1,24 p=.000)						
II	1. years of age	1.288	.743	7.012	.000	.887	78.7
	2. geogr. mob. <i>b</i>	-1.815	-.265	-2.502	.020		
	(F=42.39 df=2,23 p=.000)						

n-deletion

	step predictor	b	β	t	p	MR	%var
I	geogr. mob. <i>b</i>	-1.207	-.421	-2.277	.032	.421	17.8
	(F=5.18 df=1,24 p=.032)						

t-deletion

	step predictor	b	β	t	p	MR	%var
I	years of age	-.304	-.461	-2.548	.018	.461	21.3
	(F=6.493 df=1,24 p=.018)						
II	1. years of age	-.448	-.680	-3.720	.001	.627	39.3
	2. education	-.055	-.477	-2.609	.016		
	(F=7.43 df=2,23 p=.003)						

Table 9.12 Findings from stepwise multiple regression analysis for years of age and the four speaker background variables

background variables we should take into account a possible 'restriction of range' effect. On the other hand, on the basis of our knowledge of the Rimborg community we can say that our speaker sample certainly includes the modi in the distribution of these speaker background variables in the population.

Another possible explanation why age is not supplanted by any of the macro-social background variables as predictor for the use of γ^1 -weakening or t-deletion is that our sample of speakers is simply too small to allow testing the assumption. After all, it was borne out in Van Hout's (1989) study of the language use of 143 natives of Nijmegen.

Moreover, as we saw in Table 4.3, within our sample of speakers significant correlations exist between years of age on the one hand and geographical mobility, education and occupation on the other. These correlations are weak, so we can safely assume that the relations are not linear. Nonetheless, in our sample the speakers' age always contains a margin of error due to covariation in the background variables mobility, education and occupation.

Last but not least, apart from extra-linguistic forces like the macro-social speaker background features, also linguistic forces can be reflected in the variable years of age. With respect to γ^1 -weakening and t-deletion, the forces motivated by syllable structure may very well be involved. The age effect may contain the effects of the interplay of language acquisition and Universal Grammar. According to recent formal models, linguistic change may be a consequence of the pressure that is constantly being exerted by Universal Grammar upon points of tension within the grammar of a specific language (or language variety, for that matter). In the two LVs at issue, from the perspective of syllable structure, these points of tension are the variation between an obstruent and its weakened (glide) equivalent in syllable onsets, and obstruent clusters in the right-hand syllable margin or an extra-syllabic or floating /t/ in word-final position, respectively. The pressure to get rid of such marked structures may become so high that the acquisitional intake may eventually differ from the input. This involves a process of reanalysis and reorganization. The results of such a process may become manifest cross-generationally.¹² It is not inconceivable that the age effects in the application of the rules for γ^1 -weakening and t-deletion partly contain the results of this kind of process.

¹² In connection with processes of creolization, comparable hypotheses can be found in e.g. Givón 1979: notes 15 and 19.

So much for the four possible explanations that we can think of for the findings regarding the role of the variable years of age in in-group dialect use. How about the macro-social background variables? The use of both γ^l -weakening and n-deletion shows a significant effect of the speakers' mobility, a variable on the geographical dimension. Final t-deletion, on the other hand, can be predicted from a speaker's education, a variable on the socio-economic dimension in the speakers' background. It is important to point out the inversely proportional nature of the latter relation. Since γ^l -weakening is on the wane, whereas t-deletion is gaining ground, these findings seem to support the view that dialects in the traditional sense¹³ are gradually being supplanted by a new type of variety with primarily social connotations (cf. Edgar Radtke 1987: 1500 for references to studies with comparable findings for Italy and France).

If we, finally, compare the results of the multiple regression analyses above to those summarized in the last paragraphs of § 9.2.1 (in which age was not included) then first of all the high degree of similarity catches the eye. Furthermore, there is at least one aspect per LV which attracts our attention.

- Whereas geographical mobility was found to bind 33.0% of the variation in the application of the γ^l -weakening rule, the inclusion of age changes the picture: age takes over the first place, followed by geographical mobility. The speakers' age and mobility account for no less than 78.7% of the variation.

- The inclusion of age as a predictor variable does not cause any change whatsoever in the results of the analysis regarding n-deletion. This underlines the irrelevance of the factor time in connection with this dialect feature. The only macro-social feature studied that appears to be significant to the variance in the application of the n-deletion rule is geographical mobility. Final n-deletion therefore seems to be a relatively stable dialect feature. As we saw in § 9.3 above, however, n-deletion may also be endangered.

- No (combination of) macro-social speaker background variable(s) enables one to reliably predict the frequency of t-deletion. However, addition of age to the list of predictor variables dramatically changes the picture: whereas years of age alone accounts for 21.3% of the variance, the combination of age and education binds almost 40% of the variance. The comparison of the outcomes of the analyses without and with age as a predictor variable suggests that, whereas the four speaker background variables together obscure a part of the effect of age (Table 9.11), in the first instance age in turn eclipses the explanatory role of education. This latter finding does

¹³ Compare a finding by Merges, who studied the external linguistic developments in the part of the Lower Rhine district which cuts across the present-day German-Dutch border. Some ten of the sixty inhabitants of the region who were interviewed by Merges consider the dialect mainly as a "means of communication for the people of one geographical area" - the traditional meaning of the notion (Merges 1977: 349, 357, 370 - my translation, FH).

not come as a surprise in view of the fact that after the Second World War the general level of education in the Netherlands has increased considerably.¹⁴

9.3.3 Apparent time changes in the application of the n-deletion rule: linguistic dimensions and speaker background variables

As we saw in § 9.3.1 above, significant apparent time loss in the in-group use of the γ^1 -weakening rule was found not only on the overall level, but also in all eight linguistic conditions studied. Final t-deletion, on the other hand, shows a significant increase in use on the overall level, although no interesting age group effects were detected in any of the nine linguistic conditions. In neither of the two LVs do the linguistic dimensions underlying the conditions determine the direction of the levelling process. So, as far as the two LVs displaying levelling are concerned, the linguistic side of the process does not seem to be very telling from the point of view of quantitative tendencies. Things are different in the case of n-deletion: despite the absence of a convincing age group pattern on the overall level, in four of the fourteen linguistic conditions a significant apparent time decrease occurs. In one of these four conditions (namely before consonants), the decrease takes on the ideal-typical pattern of loss $O > M > Y$. This condition is part of the only linguistic dimension which appears to have a clear effect on the process of the loss of this deletion rule. In the rest of this subsection we will concentrate on the four conditions in which the application of the rule is decreasing.

For the linguistic conditions in which the n-deletion rule is significantly losing ground, analyses were performed to determine the interrelatedness of the speakers' age and the four macro-social speaker background variables. These analyses were expected to provide an insight into the possible interplay between linguistic and social forces in what may be the initial stages of a process of rule loss. Consider the results in Table 9.13 below.

The fact that not even years of age is entered into the equation for n-deletion in words in which the I-lowering rule is not relevant, means that the age effect must be rather weak, so that after all the use of the rule in this condition is perhaps not really endangered (as yet, one might speculate). Age appears to have a clear effect on n-deletion only in adverbs. As we saw, there is a sharp fall in the application of the rule after the Older age group, such that the speakers of the Middle and Younger groups form one homogeneous subset, even though the Younger speakers use the rule somewhat more frequently than the ones from the Middle age group. The difference between the means for the speakers from the latter two groups is not significant, however.

¹⁴ Compare the significant, weak negative correlation between the two variables in our sample of speakers - Table 4.3 in § 4.3.3 above.

criterion	predictor	b	ß	t	p	%var
I-low not rel	—					
adverbs	years of age	.442	.490	2.754	.011	24.0
with lex H	education	-.062	-.426	-2.30	.030	18.2
before cons	education	-.079	-.480	-2.682	.013	23.1

Table 9.13 Findings from stepwise multiple regression analysis for years of age and the four speaker background variables. Criteria: n-deletion in linguistic conditions showing loss. Predictors within the .05 probability level for variables to be entered

The similarly decreasing use of the rule in words with a lexical H, as well as in cases where a consonant follows, can be predicted from a speaker's educational level - albeit in the negative sense: the higher one's educational background, the poorer the chance that one applies the rule in these conditions and inversely: the lower one's educational background, the better the chances that the rule is applied. Since the general educational level, which has increased very clearly during the past, say, forty years, is not expected to decline in the near future, we predict that the use of the rule will continue to dwindle in these conditions. Moreover, a growing awareness of the arising social connotations of applying the n-deletion rule in these environments may weaken its position.

The very fact that the use of the n-deletion rule in the latter two conditions is sensitive to a speaker's educational background is very remarkable in the light of the finding that on the overall level geographical mobility is the only significant predictor (see Table 9.12 above). Comparing these two facts leads us to the interpretation that n-deletion is no longer just a dialect feature in the traditional sense. If this interpretation is correct, then n-deletion may be changing into an LV with characteristics in between those of γ^1 -weakening, which has only geographical connotations and has almost disappeared, and t-deletion, which has social connotations overall and shows increasing use. This, in turn, may explain why the n-deletion rule seems to hesitate -as it were- between loss and maintenance.

The linguistic side of the interplay between linguistic and social forces that makes education the predictor for the (reluctant decrease in) application of the n-deletion rule in these exact conditions seems hard to fathom: why are exactly these linguistic conditions relevant? We refrain from further speculations, and leave this question unanswered.

9.4 Summary

For this investigation, relatively spontaneous dialect use was recorded in in-group and in out-group contact situations. In these two corpora, three LVs were studied, all three of which consisted of postlexical phonological rules.

Our findings regarding the in-group data, presented in this chapter, started with analyses of dialect use as such, unrelated to the speakers' age groups. We established that the rule for γ^1 -weakening, the LV with the smallest geographical spread, is used considerably less often than the rule for final n-deletion, which, in turn, is used considerably less often than the rule for word-final t-deletion, the feature with the widest areal spread.

The search for extra-linguistic patterns underlying the use of the three dialect features was limited to macro-social features regarding the geographical and the socio-economic dimension of the speakers' backgrounds. One of the major findings indicates that both γ^1 -weakening rule and n-deletion are only sensitive to the speakers' geographical mobility. The use of the t-deletion rule does not appear to be affected by any of the features in the two dimensions of speaker background.

Dialect levelling was again studied in apparent time, through the analysis of dialect use in relation with the age group of the speakers. The dialect feature with the smallest geographical spread, γ^1 -weakening, is apparently in the process of being lost. Word-final t-deletion, on the other hand, the LV with the widest areal diffusion, displays a further rise in use. The two possible manifestations of dialect levelling thus both appear to be taking place in the Rimburg dialect. Final n-deletion, which has a geographical spread intermediate between that of the other two, does not show a significant age group effect, but is certainly not stable either. By and large, the frequency of application of the rule seems to be decreasing. The difference between the age group patterns in the use of the three dialect features is highly significant.

This part of the findings supports the *hypotheses*

- I. levelling affects variation on the dialect - standard language level (t-deletion, which also occurs in the regional variety of the standard language) as well as variation of the interdialectal type (γ^1 -weakening), and
- II. levelling is gradual in time (age groups) and in space (areal spread of the three LVs).

None of the linguistic dimensions studied appears to have a clear effect on the levelling out of γ^1 -weakening¹⁵, and loss appears to occur in all eight linguistic conditions that were studied. Although no significant age group effect on the use of the final n-deletion rule was found on the overall level, in four of the fourteen linguistic conditions in which it was studied, the use of the rule is decreasing. One of

¹⁵ One is inclined to add 'anymore'. However, such an interpretation would be beyond the empirical basis afforded by our synchronic data.

the six linguistic dimensions studied turns out to be significant with respect to the changes that appear to be going on in the use of the rule, namely 'nature of the right-hand environment'. One of the most surprising findings is the loss of n-deletion before consonants, for which linguistic forces do not seem to be responsible. The fact that loss appears to be taking place only in a part of the linguistic environments that we examined may as such be considered as support for the part of the second hypothesis according to which levelling is gradual also linguistically. One may hypothesize that the levelling process has not yet reached the overall level, but that sooner or later this will happen. After all, the restriction of a rule's domain usually implies a complication of its use and, more importantly, acquisition, and will thus weaken its position. The overall application of the final t-deletion rule was found to be increasing; no significant age group effects were found in any of the nine linguistic conditions, however. Neither do any of the four linguistic dimensions underlying these conditions have an impact on the levelling process.

Additional evidence in favour of the hypothesis that says that levelling is gradual is the finding that the proportion of linguistic conditions in which levelling occurs decreases from γ^1 -weakening (8/8) via n-deletion (4/14) to t-deletion (0/9).

Additional analyses enabled us to raise a tiny corner of the veil regarding the extra-linguistic part of the explanation for the patterns of levelling that were found in the in-group data. Two types of analysis were performed to investigate the role of the macro-social speaker background features. The outcomes of the first type of analysis suggested that the four speaker background variables together explain about 11% of the loss of the γ^1 -weakening rule and slightly less than 3% of the 'wavering' loss of the n-deletion rule. Remarkably enough, the small cluster of macro-social background variables obscures over 8% of the effect of age on t-deletion. The results of the second type of analysis did not seem to support the assumption that age group effects can be traced back to "general societal developments". We did not, however, conclude that the assumption is not correct, because the finding may have been due to methodological shortcomings. Moreover, the age effects may contain the effects of linguistic forces. As far as the macro-social variables are concerned, the analyses of the second type show that the use of the rules for γ^1 -weakening and n-deletion shows a significant effect of the speakers' geographical mobility. Final t-deletion, on the other hand, is related primarily (but negatively) to education, a variable in the socio-economic dimension in the speakers' background. The latter finding is not surprising in the light of the fact that dialect-geographically t-deletion is not a very specific phenomenon. Since γ^1 -weakening is undergoing loss, whereas the use of t-deletion is increasing, these findings suggest that the Rimburch dialect is gradually giving way to a variety with social, and no longer just geographical, connotations.

The intertwining of linguistic and extra-linguistic patterns in dialect levelling was studied only in connection with n-deletion. In two of the four linguistic conditions in which the application of this rule shows significant age group effects, it is sensitive to a speaker's educational background, which is most remarkable in view of the finding

that on the level of overall use only geographical mobility plays a role. This may mean that the rule is changing from a dialect feature in the traditional sense, with only geographical connotations, into an LV with social connotations. This, in turn, may explain why the n-deletion rule seems to hesitate between loss and maintenance.

Like the elicited data, the data for the spontaneous dialect use in the in-group conversations permitted testing the *hypotheses I and II* in extenso, and our findings can be said to confirm the hypotheses. Except for the part of the second hypothesis according to which dialect levelling is linguistically gradual, the testing of the hypotheses only gave us an idea of 'the how', but not of 'the why' of the levelling process. For that reason, additional analyses were carried out regarding the role of four macro-social variables. However, statistically neither the linguistic dimensions nor the few speaker background variables explain very much.

In all, hypothesis III, which says that dialect levelling is foreshadowed in accommodation in dialect use, still remains to be tested. This will be done on the basis of analyses of data for both the in-group and the out-group dialect use (chapter 11). First, however, we will consider the findings for the out-group dialect use as such (chapter 10).

Chapter 10

Findings for the out-group conversations

10.1 Introduction

The spontaneous speech material studied for this investigation consisted of two corpora. The one containing in-group dialect use was the topic of the previous chapter. In the present chapter the out-group dialect use will be analysed. As may be recollected from section 4.4, in the conversations recorded for this latter corpus each of the 27 speakers was confronted individually with a speaker of another variety. These other varieties were the Waubach/Groenstraat dialect, representing what we have termed the B-type Limburg dialects, the dialect spoken in Sittard, which represents the C-type dialects, and the regional variety of the standard language. The out-group contact situations were labelled C2, C3 and C4, respectively. Three representatives of each age group in our sample were assigned to each of these three out-group contact situations. Each of the nine cells in the matrix age groups x out-group contact situations thus contains three speakers (see Table 4.4 in § 4.4.2).

Since another independent variable was introduced while the number of speakers remained constant, the number of observations was increased. From each of the 27 recordings, which had a mean duration of almost 44 minutes, several samples were chosen for analysis.¹ Expressed in units of time, the total amount of speech material that was analysed again varies considerably between speakers. Expressed in numbers of realizations of each of the three LVs, the between speaker variation is reasonably small, not in the least because the bottom margin was fixed at four observations per LV per linguistic condition per speaker. The initial analyses of our recordings of out-group conversations resulted in 3577 observations for the entire sample of speakers. This comes down to an average of almost 1200 per LV, 132.5 per speaker, and 44.2 scores per speaker per LV.

The main aim of studying these data is testing hypothesis III, which says that accommodation in dialect use foreshadows dialect levelling. Testing this hypothesis will consist of comparing in-group levelling (to the extent that it becomes visible when dialect use is related to the speakers' age groups) with accommodation. Accommodation will be tracked down through the analysis of the differences in dialect use of each single speaker between in- and out-group contact. Accommodation in dialect use and testing the third hypothesis will be the subject of Ch. 11. In the present chapter we concentrate on out-group dialect use as such. We will not try to systematically uncover processes of dialect levelling in these data; we are interested in out-group dialect use mainly as it enables us to study accommodation. We will nonetheless pay due attention to the effects of the age factor.

¹ The criteria for selection were presented in § 4.5.1 above.

Our approach to the out-group data will be very similar to the one regarding the in-group data. First, the overall patterns in the use of the three dialect features will as such be examined (section 10.2), and then it will be related to the speakers' age groups (section 10.3). Any apparent time changes in the use will be related to linguistic as well as extralinguistic factors. As we pointed out above, the analyses will be extended with the independent variable out-group contact situation. In § 10.4 we summarize the main findings.

10.2 Use of the dialect features. Overall patterns

In this section we will first consider overall patterns in the out-group use of the dialect features. In §§ 10.2.1 we will then examine whether there are differences in the use of dialect features between the three out-group contact situations.

Table 10.1 contains the figures for the mean frequency of use of the three dialect features in the out-group corpus along with the standard deviation. As was the case in the in-group data, the variance in the use of these dialect features is inversely proportional to their average use.

	\bar{X}	s
γ^1 -weakening	22.26	24.87
n-deletion	39.31	15.43
t-deletion	76.52	12.92

Table 10.1 Mean and standard deviation of the out-group use of the dialect features

Again, the average occurrence of the dialect features turns out to increase with their geographical spread. The effect of the geographical dispersion of the dialect features on their occurrence in the out-group conversations is highly significant ($F=62.13$ $df=2,52$ $p=.000$).

In the out-group conditions the dialect features do not seem to be completely independent of each other, witness their patterns of covariation in Table 10.2 below.

The figures show that γ^1 -weakening maintains significant correlations with the other two rules. However, these relations are weak. Moreover, the one with t-deletion is negative. The correlation between n-deletion and t-deletion is almost nil and not

significant. In all, the mutual dependence of these three dialect features in the out-group data is really only rather weak.

	n-deletion	t-deletion
γ^1 -weakening	.4107 (.033)	-.4447 (.020)
n-deletion		.0243 (.904)

Table 10.2 Pearson correlation coefficients between the dialect features (two-tailed probabilities; $n=27$)

10.2.1 The role of the contact situation

So far, the data for the dialect use in the three out-group contact situations were lumped together and treated as one aggregated set. In the next subsection, we will consider the out-group dialect use in relation with the extra-linguistic variable out-group contact situation. For the study of this relationship, the data were again approached quantitatively: the relative frequency of use of each of the dialect features was related to the out-group contact situation, in the same way as it was related to the speakers' age groups in the elicited and in-group data.

As we pointed out, the out-group corpus consists of conversations between each of the speakers in our sample and a speaker of another variety. In the analyses to be presented below, account was taken of the fact that in the out-group data the contact situation and age group were simultaneously varied. Since in the design of the out-group corpus both age group and out-group contact situation constituted between subjects factors, their effects were studied in the first place by way of two-way analyses of variance. However, in this section, we will limit our attention to the findings regarding the effect of the factor contact situation.

γ^1 -weakening

The findings regarding the relative use of the γ^1 -weakening rule in the three out-group contact situations are presented in Table 10.3. Although these results, as well as those for n-deletion and t-deletion (Tables 10.4 and 10.5 below), were obtained by two-way ANOVAs, the values for F , p and %var only concern the variable contact situation. The degrees of freedom presented in the tables concern the factor out-group contact situation and the residual (within groups), respectively.

out-gr.cont.sit.		\bar{X}	s	F	df	p	%var
C2	9	22.70	22.70	1.398	2,18	.273	3.61
C3	9	16.30	23.59				
C4	9	27.78	29.40				
entire sample		22.26	24.87				

Table 10.3 Analysis of variance: mean and standard deviation of the use of the γ^l -weakening rule in the three out-group contact situations; the probability and the explained variance

Despite the differences between the mean frequencies of use of the γ^l -weakening rule in C2, C3 and C4, the effect of the out-group contact situation on the use of this dialect feature is far from significant.

n-deletion

In the dialect spoken in Sittard, which represents the C-type Limburg dialects in our investigation, the n-deletion rule does not occur², let alone in the regional variety of the standard language. Therefore one would expect the application of the rule to decrease in the contact situations C3 and C4. Consider Table 10.4.

out-gr.cont.sit.		\bar{X}	s	F	df	p	%var
C2	9	48.95	9.32	3.538	2,18	.051	20.25
C3	9	35.01	16.99				
C4	9	33.97	15.51				
entire sample		39.31	15.43				

Table 10.4 Analysis of variance: mean and standard deviation of the use of the n-deletion rule in the three out-group contact situations; the probability and the explained variance

We expected the frequency of application of the rule to taper off -as it were- with increasing distance of the variety involved in the contact, that is, C2 > C3 > C4. The observed pattern tallies with the one we expected, displaying gradually decreasing use

² Generally speaking; see § 8.5.2 above for a more precise description of the state of affairs.

of this dialect feature, although these figures show that the main difference is between C2 on the one hand and C3 and C4 on the other. The pattern is nearly significant at the .05 level, but not quite.

t-deletion

The only one of the three LVs at issue that occurs not only in the A- and B-, but also in the C-type Limburg dialects and occasionally even in the regional variety of the standard language is word-final *t*-deletion. Since application of this rule can consequently not be interpreted as divergence from any of the three contact varieties at hand, in the present three contact situations no significant effect can be expected from the variable out-group contact situation on the use of this dialect feature.

out-gr.cont.sit.		\bar{X}	s	F	df	p	%var
C2	9	74.18	10.39	.974	2,18	.396	4.84
C3	9	80.45	12.18				
C4	9	74.94	16.11				
entire sample		76.52	12.92				

Table 10.5 Analysis of variance: mean and standard deviation of the use of the *t*-deletion rule in the three out-group contact situations; the probability and the explained variance

The findings presented in Table 10.5, and specifically the non-significance of the effect of the out-group contact situations, confirm our prediction.

Let us consider these findings from a somewhat more general point of view. The only dialect feature on the use of which the variable out-group contact situation appears to exert a nearly significant effect is *n*-deletion.³ One might object that we cannot be sure whether (the distance between the Rimburg dialect and) the contact varieties spoken by our speakers' interlocutors in the out-group situations alone explain this effect. Admittedly, the types of variables that are controlled in, for instance, matched guise experiments (like medium-term and long-term voice features, para- and non-linguistic behaviour, personality traits etc.) indeed vary between the three interlocutors in C2, C3 and C4. In general their role-playing, involvedness and interest hardly seem to, however, and, as we said in § 4.4.2, they scarcely differed from

³ The difference between the dialect features in this respect is also evident from the differences in the part of the variance in their use bound by the variable out-group contact situation (%var).

each other in age and socio-economic background. All these variables concern the interlocutor; the topic and content of the interaction is another control variable in many socio-psychological studies of language variation. The thematic organization of the out-group conversations by the interlocutors and our selection of the samples to be analysed⁴ guaranteed a high degree of similarity of the out-group data of our 27 speakers also in this connection. We therefore brush aside the interlocutors and the topic organization as sources of underlying determinants for the above findings, in favour of the variable out-group contact situation.

The finding that n-deletion is the only LV whose use is affected by the out-group contact situation, moreover displaying the predicted pattern, suggests an interaction between the variables out-group contact situation and dialect features. The outcomes of an analysis of variance⁵ clearly confirm this inference ($F=3.84$ $df=4,36$ $p=.011$).

Interestingly, the micro-social variable out-group contact situation turns out to be significant only to n-deletion, the only dialect feature whose overall use does not show an age group effect. We will return to this finding in § 10.3.3 below.

10.3 Apparent time changes in the use of the dialect features. Overall patterns

In the introduction to this chapter we pointed out that the out-group data were not collected for the apparent time study of processes of dialect levelling. Nonetheless, we do not intend to ignore the effects of the factor age on the out-group dialect use. The present section contains a very brief account of the effect of the speakers' age on their out-group dialect use and some of its linguistic and extralinguistic aspects.

First we will consider the age group patterns in the overall use of the dialect features. These age group patterns will then be related to the linguistic dimensions (§ 10.3.1). In § 10.3.2 we will try to establish the role of the macro-social speaker background variables in the apparent time patterns in the out-group use of the dialect features. In § 10.3.3, finally, we briefly discuss the findings regarding the relationship between age and the micro-social variable out-group contact situation. The organization of this section is therefore in principle the same as that of its counterpart in the previous chapter, on the understanding 1. that as a result of the dynamism in the occurrence of the three dialect features we also pay attention to the possible effects of the out-group contact situation, and 2. that the presentation here is much briefer.

⁴ Discussed in §§ 4.4.2 and 4.5.1 above, respectively.

⁵ The out-group data were approached as a three-factor design with repeated measures on the factor dialect features. The results of this analysis will be presented in Table 10.6 in § 10.3 below.

The variables age group, out-group contact situation and dialect features were included in an analysis of variance, the results of which are presented in Table 10.6.

source	df	MS	F	p
between ss.				
within cells	18	269.82		
age group	2	1793.59	6.65	.007
out-gr. contact situation	2	152.96	.57	.577
interaction age group x out-gr. contact sit.	4	115.00	.43	.788
within ss.				
within cells	36	114.68		
dialect features	2	20790.35	181.30	.000
interaction age group x dialect features	4	2625.50	22.89	.000
interaction out-gr. contact sit. x dialect features	4	440.01	3.84	.011
interaction age group x out-gr. contact sit. x dialect features	8	126.37	1.10	.385

Table 10.6 Analysis of variance. The effects of the speakers' age group, the out-group contact situation and the dialect features on dialect use (all factors fixed)

Two of the three main effects turn out to be significant. Equally, of the three first-order interaction effects two are significant, whereas the second-order interaction is not.

The significant main effects concern the speakers' age groups and the dialect features; the variable out-group contact situation as such has no significant effect. However, the first-order interaction effect between out-group contact situation and dialect features is significant; as we saw in the preceding subsection, this interaction comes down to the fact that the only dialect feature on the use of which the out-group contact situation has a clear effect is n-deletion. The other significant first-order interaction concerns the variables age group and dialect features; both interactions will be considered in this subsection. Both the first-order interaction between age group and out-group contact situation, as well as the (equally non-significant) second-order interaction between age group, out-group contact situation and dialect features are not significant. In § 10.3.3 we will briefly return to the latter two results.

It is not very useful to dwell on significant main effects, if the concerned variables are involved in significant interactions - as is obviously the case with the factors age group and dialect features.

Both first-order interactions in which the factor dialect features is involved are significant. One of them concerns the variable out-group contact situation. As we saw in the preceding section (Tables 10.3 - 10.5 above), the out-group contact situation only has a clear effect on the occurrence of n-deletion. The interaction between the factors out-group contact situation and LVs is visually represented in Figure 10.1.

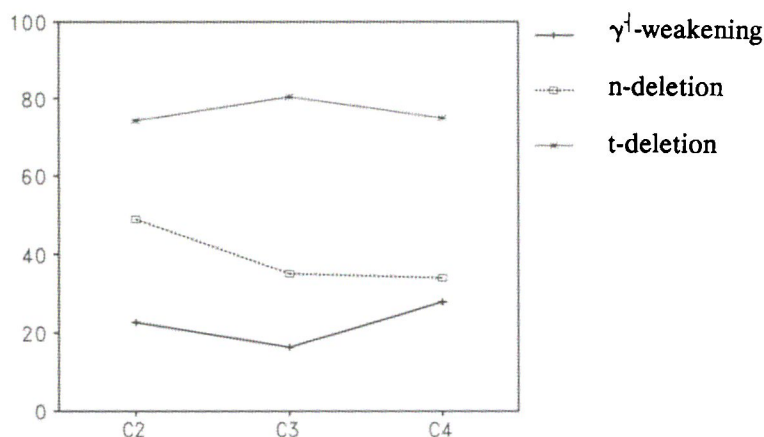


Figure 10.1 The use of the three dialect features in the three out-group contact situations

It is remarkable that the contact with a speaker of the Sittard dialect (C3), rather than with a speaker of the regional variety of the standard language (C4), has the highest separating effect on the frequencies of use of the two dialect features which occupy the pole positions on the geographical continuum.

The other first-order interaction in which the factor dialect features is involved is at the same time the only significant one for the factor age group. Consider Table 10.7.

	age groups					years of age
	O	M	Y	p	%var	%var
γ^l -weakening	51.11	11.54	4.14	.000	70.56	67.54
n-deletion	47.05	36.64	34.23	.124	13.69	13.61
t-deletion	68.09	74.01	87.47	.003	40.96	32.15

Table 10.7 The average out-group use of the three dialect features in the three age groups, the probability of the age group effect and the part of the variance explained by the variables age group and years of age⁶

The interaction comes down to apparent time patterns which are highly similar to the ones found for in-group dialect use. On the one hand the use of the γ^l -weakening rule is apparently undergoing a sharp decrease, and the application of the n-deletion rule shows a clear, though non-significant, decrease. On the other hand, the use of the t-deletion rule turns out to be increasing considerably. The apparent time patterns are shown in Figure 10.2.

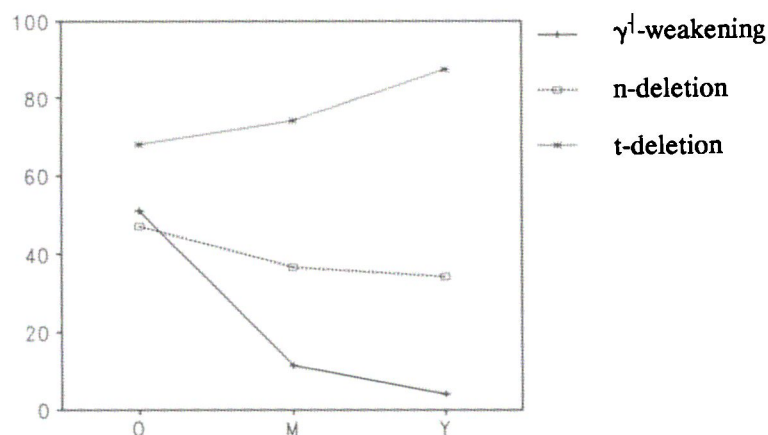


Figure 10.2 The out-group use of the three dialect features in the three age groups

⁶ The findings for the variable age group concern two-way analyses of variance (cf. § 10.2.1 above), those for the variable years of age result from linear regression analyses.

10.3.1 Apparent time changes in the use of the dialect features: linguistic dimensions

In this subsection we will briefly consider the structural graduality of the apparent time changes that emerge from our out-group data. Apparent time patterns in the occurrence of each dialect feature in each single linguistic condition were traced by means of the two-way ANOVAs (mentioned in § 10.2.1 above) with age group and out-group contact situation as independent variables. The effect of the linguistic dimensions on apparent time changes in the use of the dialect features was established by means of 'comprehensive' analyses: for each dialect feature per linguistic dimension we performed an analysis of variance including the between-subjects variables age group and out-group contact situation.

From the 31 linguistic conditions that were distinguished, 17 show a significant age group effect. Six of these concern *t*-deletion and three pertain to the use of the *n*-deletion rule. All eight linguistic conditions in which γ^1 -weakening was studied show age group effects. These eight conditions form four linguistic dimensions. Of these four dimensions, three appear to affect the loss of the γ^1 -weakening rule. The effect of the dimension 'grammatical status' ($F=5.48$ $df=2,18$ $p=.014$) consists of the fact that for $/\gamma^1/s$ which are part of a lexeme the curve of the loss pattern is a little less steep than that for $/\gamma^1/s$ which form part of a bound morpheme. The dimension 'position in the word' determines the levelling process ($F=5.23$ $df=2,17$ $p=.017$) in the sense that in word-initial $/\gamma^1/s$ the loss of the rule is much more abrupt than in word-internal ones. The nature of the following segment has a very marked effect: before liquids the decrease in the application of the rule is much more dramatic than before vowels ($F=9.62$ $df=2,18$ $p=.001$). In each single condition the dramatism especially consists of the break which occurs between the Older and the Middle age group; after the Middle age group we are over the hump.

Clear age group effects on the use of the *n*-deletion rule were found in three conditions. Each condition forms part of a separate linguistic dimension; all three dimensions are phonological in nature.

The apparent time decrease which appears to take place in the application of the rule before consonants is just not significant ($p=.051$). The underlying linguistic dimension 'right-hand environment' does not significantly affect the age group pattern in the use of the *n*-deletion rule. The apparent time drop in the use of this rule in 'unstressed' words and in words with a lexical High tone is statistically significant, and so is the effect exerted by the respective underlying linguistic dimensions on the loss of the rule. As far as the dimension \pm stress is concerned, loss only occurs in unstressed words, the indexes of *n*-deletion in stressed words of the three age groups are all approximately 25.00 ($F=9.32$ $df=2,18$ $p=.002$). As for the dimension 'presence or absence of a High tone': loss is only taking place in words with a lexical H. The application of the *n*-deletion rule in words without a lexical H is around 18.40, with a very slight and gradual apparent time increase ($F=4.71$ $df=2,18$ $p=.023$).

In § 10.2.1 above we saw that on the level of overall use n-deletion is affected by the out-group contact situation but not by the age of the speakers. On a linguistically more detailed level, things are a little less clear-cut. After all, the number of linguistic conditions in which n-deletion shows an effect of the out-group contact situation ($n=2$)⁷ does not exceed the number of linguistic conditions showing age group effects.

In the case of both γ^1 -weakening and final n-deletion, all changes consist of a gradual loss (witness the age group pattern $O > M > Y$). On the other hand, all six linguistic conditions in which the application of the *t-deletion* rule is significantly affected by the speakers' age groups show the opposite pattern $O < M < Y$, i.e. a gradual increase. The only three environments in which *t-deletion* appears to be 'immune' to age group effects in situations of out-group contact are 'before a pause', 'before a consonant', and 'part of a lexeme'. The first two conditions form part of the linguistic dimension 'right-hand environment'. This dimension does not appear to significantly affect the age group patterns in the application of the rule. This is different in the case of the dimension 'grammatical status'. The indexes for the deletion of lexemic [t]s are already fairly high, although a small dip occurs in the Middle age group; at the same time there is a very considerable, though gradual increase going on in the deletion of morphemic [t]s ($F=16.06$ $df=2,18$ $p=.000$).

10.3.2 Apparent time changes in the use of the dialect features: macro-social forces

In order to explain age effects on dialect use at least partly as manifestations of general macro-social changes, we tried to assess how the factor age is related to the four speaker background variables in the use of the three LVs. To this end, multiple regression analyses were performed. Table 10.8 allows comparison of the main findings with those of the multiple regression analyses for the four macro-social variables alone, without years of age as a predictor variable.

The introduction of the variable years of age appears to change the picture in connection with the rules for γ^1 -weakening and *t-deletion*. The speakers' years of age pushes aside their relative geographical mobility as the one and only significant predictor of the use of the γ^1 -weakening rule. At the same time, the part of the variance in the use of the rule bound by the significant predictor rises from about 22% to over 71%. Also the scenario regarding the weight of our macro-social features to the out-group application of the *t-deletion* rule changes quite drastically as a result

⁷ Namely in the conditions 'I-lowering not relevant' (relative frequency of n-deletion $C2 > C3 > C4$) and 'stressed' ($C2 > C4 > C3$). In neither of the two cases is the application of the n-deletion rule significantly affected by the interaction between the factor out-group contact situation and linguistic dimension. Therefore it seems that the linguistic dimensions '(ir)relevance of the I-lowering rule' and +/-stress do not influence the effect of the out-group contact situation on n-deletion.

of the inclusion of age as a predictor variable. The variables occupational level and geographical mobility disappear as significant predictors. Their roles are taken over by age, followed by educational background; the latter entertains a negative relation with *t*-deletion. The resulting increase in the proportion of explained variance is much less striking than in the case of γ^1 -weakening, however.

	years of age excluded		years of age included	
γ^1 -weakening	geogr. mobility	21.79	years of age	71.13
<i>n</i> -deletion	geogr. mobility	22.40	geogr. mobility	22.40
<i>t</i> -deletion	1. occupation		1. years of age	
	2. geogr. mobility	35.28	2. education	42.66

Table 10.8 Findings from stepwise multiple regression analysis for the four speaker background variables excluding and including years of age: significant predictors and explained variance (%var)

The fact that including age does not cause any change in the findings regarding *n*-deletion strengthens our impression that time, or at least the speakers' age, is relatively unimportant to the application of this rule.

Of course, again we have to take into account the methodological reservations that were discussed in § 9.3.2. But as far as these findings are valid, the relatively large weight of the speakers' age in connection with γ^1 -weakening and *t*-deletion seems to suggest that our few macro-social background variables do not explain very much of the dynamics in the out-group occurrence of these dialect features.

10.3.3 Apparent time changes in the use of the dialect features in relation with the micro-social factor

The results of the statistical analysis presented in Table 10.6 above show that in our out-group data no significant interaction exists between the speakers' age groups, the out-group contact situation and the LVs. This means that there are no differences in the use of the three dialect features between the speakers of the three age groups which are related to the out-group contact situation.

The same analysis made clear that the interaction effect between age group and out-group contact situation is not significant either. This amounts to saying that there are no statistically interesting differences in dialect use generally between the three age groups which can be meaningfully related to the out-group contact situation.

The latter interaction was also studied for each LV separately on three levels: overall, in the relevant linguistic dimensions and in each of the 31 linguistic conditions.⁸ On the overall level, none of the three LVs shows a significant interaction effect. In this connection it is quite remarkable that, from the point of view of the significance of the main effects, the factors age group, which has a long-term, and out-group contact situation, which has a short-term character, appear to maintain a complementary relationship. Cf. § 10.2.1 above.

In none of the linguistic dimensions involved in the study of the three dialect features the out-group contact situation was found to act on the apparent time patterns.

In the entire set of 31 linguistic conditions in which the use of the dialect features was investigated, only one instance was found of a significant interaction effect between age group and out-group contact situation; it concerns the frequency of *ɣ^l-weakening* before liquids. The outcomes of the analysis turned out to have a surprise in store: the pattern of use of the *ɣ^l-weakening* rule in this specific condition is C2 < C3 < C4. It turns out that this pattern is due to the behaviour of the three groups of three Older speakers, who 'score' 2.78, 25.60 and 55.29 in C2, C3 and C4 respectively. However, in view of the small number of speakers per cell we attach little generalizing importance to the latter finding.

In all, in our data the out-group contact situation hardly affects the age group patterns (or vice versa) in the use of the three dialect features. This means that we can be reasonably certain that these two factors are not related, as a result of which the relevant findings can be interpreted more straightforwardly. However, since the cells in the design resulting from 'crossing' the between subjects factors age group and out-group contact situation contain no more than three speakers, this finding does not allow far-reaching conclusions.

10.4 Summary

In the present chapter attention was focused on the third type of data collected for this investigation: the ones distilled from the spontaneous dialect use in situations of out-group contact.

At the overall level, the mean frequency of occurrence of the three dialect features turns out to increase considerably with their geographical distribution. As far as their out-group use is concerned, the LVs do not appear to be completely independent of each other.

⁸ In the two-way analyses of variance, in the so-called 'comprehensive' analyses of variance and, again, in the two-way analyses of variance, respectively. See § § 10.2.1 and 10.3.1 above.

The out-group dialect use was studied in connection with two types of social parameters, the so-called macro-social variables, a small set of speaker background features, and the three-value micro-social variable 'out-group contact situation', the distance between the speakers' dialect and the variety spoken by the interlocutor. From the results it appears that n-deletion is the only one of our three dialect features on the use of which the out-group contact situation has an effect. In the dialect use of the speakers of our sample this effect consists of the tapering off of the application of the n-deletion rule as the distance to the contact variety increases.

It should be stressed that the types of contact situations studied in the out-group corpus are far from rare in everyday life in Rimborg or the Mine District in general. As we pointed out in Ch. 3, the demographic changes brought about by the process of industrialization of the region during the first decades of this century led to a coexistence of (mainly Limburg) varieties. Consequently, nowadays dialect contact is a permanent feature of everyday life.

Since the ultimate aim of the study of out-group dialect use is to test the third hypothesis, we did not devote much space to a discussion of all apparent time indications of processes of dialect levelling in these data. Some attention was nevertheless paid to the effects of the factor age. The analyses resulted in the following insights:

- On the level of overall use, the out-group application of the γ^1 -weakening rule is suffering a sharp loss, and n-deletion may be undergoing loss too, though much less dramatically. The use of the rule for word-final t-deletion, on the other hand, shows a very considerable increase.
- On a linguistically more detailed level, one finds exactly the same apparent time dynamics in the use of the dialect features. Loss is occurring in all eight linguistic conditions in which the use of the γ^1 -weakening rule was studied; only one of the four linguistic dimensions underlying these conditions does not appear to affect the process. The age group effects in three out of the fourteen linguistic conditions in which n-deletion was studied also come down to a gradual apparent time loss (pattern $O > M > Y$). Two of them are part of a linguistic dimension which determines the direction of the process; both dimensions are phonological in nature. The opposite age group pattern, $O < M < Y$, i.e. gradual increase, emerges from the application of the t-deletion rule in six linguistic conditions exhibiting an age group effect. Only one of the four linguistic dimensions involved can be said to influence the developments, however. This dimension is a grammatical one.
- The small set of macro-social speaker background variables analysed do not appear to explain very much of the dynamics in the out-group use of the rules for γ^1 -weakening and t-deletion. On the other hand, the speakers' age turns out to be relatively unimportant to the use of the n-deletion rule. In connection with this dialect feature, the speaker background variable geographical mobility appears to be of great weight.
- Finally, the question was considered whether the differences in dialect use between the speakers of the three age groups are related to the variable out-group contact

situation. On almost no level of analysis were age-related differences in dialect use found which can be meaningfully related to the out-group contact situation - or vice versa.

Chapter 11

Dialect levelling and accommodation: testing the third hypothesis

11.1 Introduction

According to the third hypothesis derived from our sociolinguistic model, the long-term process of dialect levelling is foreshadowed in accommodation. This claim, which will be tested in the present chapter, parallels the central assumption of Trudgill's *Dialects in contact* (1986), that the impetus for dialect levelling is interactional, hence short-term in nature.

Our third hypothesis will be tested on the basis of the data regarding spontaneous dialect use; for this purpose the findings for levelling will be confronted with those for accommodation. As for levelling, our finding that the age group patterns in out-group dialect use are highly similar to the ones in the in-group data (§ 10.3 above) is interesting particularly in the light of the methodological insight which Labov worded as follows: "the value of new data for confirming and interpreting old data is directly proportional to the differences in the methods used to gather it" (1972b: 102). The striking similarity between the two types of spontaneous dialect use with respect to the effects of the factor age group can be taken as an indication that our findings have a certain validity.

Nevertheless, to test the third hypothesis we decided to rely only on the findings regarding levelling for the in-group data. For this decision there was an important methodological reason. In the design for the out-group data, the factor age group was crossed with the factor out-group contact situation, and each of the nine cells resulting from the crossing of both 'between subjects' factors contains only three speakers. The age group effects in the in-group data, on the other hand, are relatively 'pure' and probably yield a better insight into the process of dialect levelling.

Linguistic accommodation may be defined as the variation in language use which is related to the interactional situation. In our spontaneous data, accommodation can be brought to light by comparing the in-group dialect use of each single speaker with his dialect use in the out-group contact situation (see §§ 4.1 and 10.1 above). The two types of spontaneous, conversational data collected for the present investigation therefore enable us to operationalize the notion of accommodation as a 'within subjects' phenomenon.

In this chapter we will focus on accommodation in dialect use (sections 11.2 and 11.3). Special attention will be paid to dialect-geographical aspects of the accommodation in our data (§ 11.3.2). In § 11.4 the main findings for accommodation in our speakers' spontaneous dialect use will be briefly listed and critically discussed. Testing

the third hypothesis (§ 11.5) then consists of a comparison between the findings for accommodation and those with respect to levelling. Especially in the latter connection, we can elaborate on a number of points that were already presented, particularly in chapter 9. § 11.6, finally, contains a summary of the procedure and the main findings.

11.2 Tracing accommodation

An adequate test of the third hypothesis seems to consist of two successive steps: first, to try to isolate instances of levelling and accommodation as such, and then to compare the overall findings regarding both phenomena to one another. The first part of the first step has already been taken: especially with respect to the dialectal rules for γ^l -weakening, n- and t-deletion, the analyses performed so far have given us a fairly clear and detailed impression of the processes of dialect levelling which are taking place in the Rimbürg dialect. We have, however, hardly paid any attention to accommodation so far.

In view of the testability of our third hypothesis, i.e. the comparability of the findings regarding levelling and accommodation, our study of the latter phenomenon will be limited to manifestations of what is referred to as objective linguistic accommodation (Knops' 1987: 67-71 terminology after Giles *cum suis*).

We are interested in linguistic, rather than in psychological accommodation, since the latter concerns a speaker's intention and conviction regarding his or her interactional behaviour - something we did not study, of course. As far as linguistic accommodation is concerned, we are only interested

- (1) in *de facto*, hence empirically traceable and measurable phenomena;
- (2) in convergence as far as this is manifested in a decrease in the use of dialect features, rather than in divergence which, in this line of reasoning, would consist of an increase in the use of features of one's own language variety in a situation of contact with a speaker of another variety.¹

In our speakers' spontaneous dialect use accommodation in this restricted sense resulted in such things as

- the systematic non-application by informant 31 of the γ^l -weakening rule in his interaction with the regional standard speaking interlocutor (out-group contact situation C4), versus the application of the same rule in an incidental remark made to the dialect-speaking investigator (who generally played the role of an 'auditor' - Bell 1984: 159 ff.);

¹ The terminology is used in the sense described in e.g. Knops 1987: 65-67. The relationship between the concepts of accommodation, divergence, convergence and dialect levelling were sketched in § 1.3.4 above.

- the non-use of the n-less form of the superheavy monosyllable

/a:n/ 'on'

by speaker 28 in situation C3, and the non-use of n-less forms of this preposition as well as of

/be:n/ 'leg'

/e:n/ 'one'

by informant 37 in situation C4.

The varieties spoken by our informants' interlocutors in out-group contact situations C3 (Sittard dialect) and C4 (regional standard variety) do not allow n-deletion, and certainly not in words of this structure. Apart from the words just mentioned, all other words consisting of one superheavy syllable with /n/ in post-vocalic position in which n-deletion has been lexicalized were realized n-lessly by the same two speakers, thus conforming to the phonology of their native dialect;²

- the behaviour of speaker 26 in out-group contact situation C3 (talking to an interlocutor who speaks the C-type Limburg dialect of Sittard) during the following interaction:

INFORMANT [having told that the local brass band, of which he is a member, usually takes part in the carnival pageant. However, he himself would rather go on holiday]

aːŋəʃ ʒæːŋ ɪʒ məʃin vut
'otherwise I would probably go away' [on holiday]

INTERLOCUTOR [apparently doesn't understand]

neːt
'not?' i.e. 'wouldn't you?'

INFORMANT ɣːɪŋ ɪʒ weʒ
'I would go away'

When he repeats what he said, our informant replaces

1. the subjunctive form /ɣːɪːŋ/, which is limited to the A- and B-type dialects (see § 5.3.11), by /ɣːɪŋ/, one of the two preterite indicative options available for this verb³, and

2. the 'deeply dialectal' heteronym /vut/ 'away' by the variant /weʒ/, which is used throughout the Dutch language area; at the same time it is the only variant available in the vast majority of C-type dialects.

² See Table 8.5 in § 8.4.1 and Table 8.6 in § 8.4.2.

³ The other one, which is the more frequently used dialect variant, is /ɣːɪːŋ/.

This last piece of accommodation is ultra-short-term.⁴

These few examples are instances of accommodation which occurred during one and the same conversation. Below, we will only be concerned with accommodation in the application of the rules for γ^1 -weakening, n-deletion and t-deletion to the extent that this is manifested in clear differences in the frequency of application of these rules between the in- and out-group conversations. Our approach to accommodation in dialect use will therefore consist of a quantitative comparison between the data distilled from the out-group conversations and those representing in-group dialect use. We will, in other words, rely on the effect of the independent, within subjects variable in-group versus out-group contact.

A fuller understanding of this approach may be obtained by confronting it with the preconditions formulated by Le Page & Tabouret-Keller for the modification of one's behaviour in the direction of social groups other than one's own:

"We can only behave according to the behavioural patterns of groups we find it desirable to identify with to the extent that (i) we can identify the groups (ii) we have both adequate access to the groups and ability to analyse their behavioural patterns (iii) the motivation to join the groups is sufficiently powerful, and is either reinforced or reversed by feedback from the groups (iv) we have the ability to modify our behaviour" (Le Page & Tabouret-Keller 1985: 182)

As far as the speakers of the Rimbürg dialect and our out-group contact situations are concerned, all four preconditions are met:

re (i) and (ii): in general, there is regular contact with speakers of dialects of the transition zone, East-Limburg dialects and the regional standard language (cf. §§ 3.3.3 and 10.4 above). Such varieties must therefore be reasonably familiar also to the speakers in our sample. Specifically in connection with the out-group conversations, (ii) is fulfilled because our recordings had a mean duration of about 44 minutes (cf. § 10.1), which is ample time for our speakers to 'analyse' the patterns of linguistic behaviour of their interlocutor.

re (iii): in general it is far from exceptional for speakers of Ripuarian and transition zone dialects to evaluate their own dialect negatively vis-à-vis the (more standard-like) East-Limburg ones. During the out-group conversations recorded for our study, there was no objective reason for our speakers to linguistically dissociate from their interlocutor by keeping to their own 'normal' dialect use.

re (iv): finally, modifying one's dialect use in the sense of our operationalization of the notion of accommodation does not require the adoption of features which are

⁴ All examples discussed above happen to be taken from the material produced by speakers of the Middle and Younger age groups. However, the Older speakers' out-group dialect use also contains ample instances of accommodation.

specific to the contact variety, but only a reduction of the frequency of use of the features of one's own dialect. Evidently, our speakers are capable of this, witness the fact that even in the in-group conversations none of them was found to use all three dialect features in all cases. Of the $27 \times 3 = 81$ overall indexes, the only instance of a score of 100 concerned the in-group t-deletion behaviour of a representative of the Younger age group (informant 38).

11.3 Accommodation in spontaneous dialect use

In the preceding section we said that so far we have not paid much attention to accommodation. Nevertheless, we did already present findings relevant to this phenomenon. In §§ 9.2 and 10.2 above, we briefly discussed the overall patterns in the in-group and out-group dialect use, respectively. Comparing these findings establishes that the out-group means for the use of the three dialect features are systematically lower than the in-group ones. It is particularly interesting that the I vs. O differences are smaller if the areal spread of the dialect features is wider. Consider Table 11.1.

	I	O	d	p
γ^l -weakening	31.62	22.26	9.36	.000
n-deletion	45.06	39.31	5.75	.022
t-deletion	80.32	76.52	3.80	.032

Table 11.1 Mean use of the dialect features in in-group and out-group contact, the difference between the means and the one-tailed probability of the difference⁵

A second important difference between the two types of conversational data is that, in contrast to in-group dialect use, in the out-group contact situations the three dialect features are not completely independent of each other; cf. the patterns of covariation in Tables 9.2 and 10.2.

The analyses on which these findings are based were performed on the data for in-group and out-group use of the LVs γ^l -weakening, n-deletion and t-deletion separately. Merging the data for in- and out-group contact makes it possible to study

⁵ In connection with the I vs. O differences one-tailed probabilities were determined, since the relevant hypothesis was 'directional': more dialect use occurs in in-group than in out-group contact. The result of a test of the effect of the geographical spread of the dialect features (among other things) on accommodation will be presented in § 11.3.1.

spontaneous dialect use in general - so this is what we did. By means of an analysis of variance the effect was studied of the variable in- vs. out-group contact on our speakers' spontaneous dialect use, and hence of accommodation.

11.3.1 The findings for accommodation on two levels of analysis

To study accommodation on the most general level of analysis, the sets of data for in-group and out-group dialect use were lumped together, representing spontaneous dialect use *tout court*. In this aggregated set we studied the effect of

- the within subjects factor in- vs. out-group contact, thus accommodation, along with the effects of
- the age groups of the speakers, and
- the dialect features,

as well as the interactions between these factors. The results of the analysis⁶ are presented in Table 11.2 below.

All three main effects are highly significant. Of these, in- vs. out-group contact is the only one which is not involved in a significant interaction. As was to be expected given the earlier findings, the main effect, i.e. the nature of accommodation, consists of a higher proportion of dialect use in in-group (grand mean 52.33) than in out-group contact (46.03).

In this connection, it may be interesting to consider Le Page & Tabouret-Keller's claim: "to the extent that [a speaker] modifies his behaviour to accommodate to others it may for a time become more variable, more diffuse" (1985: 181). In the present case, this would mean that the out-group dialect use is more heterogeneous than the in-group dialect use. Taking the variance (s^2) as an indication of heterogeneity, the claim is not borne out, though. The relevant values are 118.16 for the out-group data and 142.09 for the in-group ones for our sample of speakers.

⁶ Underlying the analysis of variance applied on the out-group data (presented in Table 10.6 in § 10.3 above) is a three-factor design with repeated measures on one factor. The present one has repeated measures on two of the three factors.

source	df	MS	F	p
between ss.				
within cells	24	321.24		
age group	2	4908.16	15.28	.000
within ss.				
within cells	48	60.98		
in- vs. outgr.	1	1608.00	15.19	.001
dialect features	2	37768.42	139.23	.000
interaction age group				
x in- vs. outgr.	2	114.81	1.08	.354
within cells	24	105.89		
interaction age group				
x dialect features	4	6204.72	22.87	.000
within cells	48	271.27		
interaction in- vs. outgr.				
x dialect features	2	107.26	1.76	.183
interaction age group				
x in- vs. outgr.				
x dialect features	4	119.30	1.96	.116

Table 11.2 Analysis of variance. The effects of the speakers' age groups, the in- vs. out-group nature of the contact situation, and the dialect features on spontaneous dialect use (all factors fixed)

To return to the results in Table 11.2 above: the only significant interaction effect is the first-order one between age group and dialect features. In view of the similarities between the age group patterns in the two corpora separately, it is not surprising that in spontaneous dialect use in general the interaction between age group and dialect features takes on the pattern that was already found in each of the two corpora separately. This pattern consists of apparent time loss of the dialect features γ^l -weakening and n-deletion, dramatic in the former case, slight in the latter, as against increasing use of the t-deletion rule. Consider Table 11.3, visualized in Figure 11.1.

	O	M	Y
γ^l -weakening	59.88	15.65	5.29
n-deletion	50.06	37.80	38.69
t-deletion	70.62	76.95	87.70

Table 11.3 The average occurrence of the dialect features in the three age groups in the two corpora of spontaneous dialect use taken together

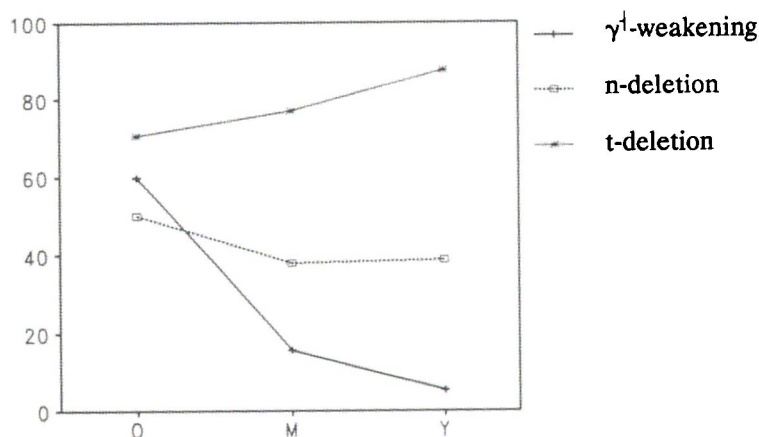


Figure 11.1 The average occurrence of the dialect features in the three age groups in the two corpora of spontaneous dialect use taken together

The fact that the effect of the interaction between the speakers' age groups and the in- vs. out-group nature of the interactional situation is not significant supports our interpretation of the age group patterns in both corpora as similar. The non-significance of the interaction between the in- vs. out-group contact on the one hand, and the three dialect features on the other seems to indicate that there are no meaningful differences in the degree of accommodation between the three LVs. This contrasts with our finding that the in- vs. out-group differences in dialect use are inversely proportional to the geographical spread of the three features.⁷ Finally, the non-significance of the second-order interaction effect keeps the patterns relatively easy to interpret.

This exercise gives us a first impression of the process of accommodation, albeit on a fairly general level. The outcomes of the analysis indicate that, at least on this

⁷ Presented in Table 11.2 above. To judge from the results of t-tests, the accommodation effect on the use of each separate dialect feature is significant.

level, accommodation is not related to the speakers' age groups or to the dialect features that were studied.

The above analysis is too general to afford any insight into the linguistic side of the accommodation processes at work in the spontaneous dialect use of our speakers. For that purpose, we need analyses on the level of the individual dialect features. Just like dialect levelling, accommodation may well be linguistically gradual to the extent that it only occurs in certain conditions. This is why we will exploit the opportunity that our data offer to refine our approach in this respect. Accommodation will therefore be studied in the use of each of the dialect features, both on the overall level and in specific linguistic conditions. In the remainder of this subsection we will present the outcomes of the analyses that we carried out for this purpose. However, some more preliminary remarks are called for.

For the sake of these analyses, a partly new extralinguistic independent variable was introduced. In a way, this variable was already involved in the study of the data regarding out-group dialect use. There it was labelled 'out-group contact situation' (o.c.s.), and it took on the values

- C2 = contact with a speaker of the Waubach/Groenstraat dialect varieties,
- C3 = contact with a speaker of the Sittard dialect, and
- C4 = contact with a speaker of the regional variety of the standard language.

The label C1 is reserved for the in-group contact situation.⁸

As will be recalled, the nine representatives of each of the three age groups in our sample were each assigned to one of the three out-group interactional conditions. So apart from three age groups, our speaker sample contains three (what we will henceforth refer to as) 'c-groups'. In short, instead of 'out-group contact situation' (or o.c.s.), in connection with the analyses regarding accommodation we will speak of 'c-groups'. The three values of this variable are labelled gC2, gC3 and gC4; in these labels 'g' stands for 'group'. See Fig. 11.2.

	gC2	gC3	gC4
In-group	C1	C1	C1
Out-group	C2	C3	C4

Figure 11.2 The three values of the variable c-group

Of course, we would prefer not to find significant main effects for this between subjects factor, since that could mean that our speaker sample is biased in the use of the relevant dialect feature. The possibility should, however, be taken into account.

⁸ See Table 4.4 in § 4.4.2 above.

Table 11.4 below allows comparison of the three main types of analysis performed for this study from the point of view of the number and nature of the factors that were *systematically* varied; hence, the macro-social speaker background variables have been left out of consideration. As far as the independent variables are concerned, the information in the table is furthermore restricted to extralinguistic and non-dialectological factors. By way of the former restriction, we leave linguistic dimensions out of the picture. With the latter restriction we exclude the factor areal spread of the dialect features, which constituted one of the independent variables in the analysis presented in Table 11.2.

type of data	object	independent extralinguistic, non-dialectological variables		
		number	label	within or between subjects?
Elicited, In-group	levelling	1	age group	b
Out-group	levelling	2	age group o.c.s / c-group	b b
In- & Out-group	accomm.	3	age group o.c.s / c-group in- vs out-group contact	b b w

Table 11.4 Number and nature of the manipulated independent variables involved in the analyses of the use of the dialect features from three perspectives

Hence, the following analyses contain three systematically varied extralinguistic, non-dialectological factors, one more than those involved in the study of the out-group data alone. In order not to complicate analyses unnecessarily, the linguistic dimensions will not be included.⁹ Accommodation in the use of the dialect features will be studied in each single linguistic condition separately. The underlying linguistic dimensions will therefore not be investigated as possible determinants of accommodation.

⁹ Four, rather than three, factors would make the number of possible effects inconveniently large. Apart from four main effects, we would have to take account of six (first-order) plus four (second-order) plus one (third-order) interaction effects.

The main outcomes of the analyses are presented in Table 11.5. For the sake of readability, the table only contains the probability of the significant (and nearly significant) effects. Moreover, only cases are included in which accommodation turned out to exert a (nearly) significant main or interaction effect. After all, the goal of these analyses is the detection of accommodation in dialect use, which in turn serves to test the hypothesis that dialect levelling is reflected in accommodation in dialect use.

In the rest of the present subsection we will briefly pay attention to the main effects of the factors

- in- vs. out-group contact (abbreviated as 'IvsO' in the table)
- age group
- c-group,

and to the interaction effects between

- age group and c-group
- age group and in- vs. out-group contact.

The interaction effects

- c-group x in- vs. out-group contact, and
 - age group x c-group x in- vs. out-group contact
- will be discussed in the next subsection.

In *all* cases where the factor in- vs. out-group contact was found to have a significant main effect, this comes down to less use of the relevant dialect feature in out-group contact, hence to accommodation in the sense that we attached to this notion in the preceding section.

As far as the γ^1 -weakening rule is concerned, this significantly reduced out-group use occurs overall and in all linguistic conditions that were distinguished. In all cases, there is also a highly significant age group effect, which comes down to apparent time loss. A significant c-group effect only occurs if the underlying $/\gamma^1/$ is part of a bound morpheme, i.e. in the prefix 'ge-'. Inspection of the means makes clear that in this environment the weakening rule was used most often by the group of speakers who, in the out-group interaction, talked to a speaker of the regional standard variety (gC4), and least often by those who talked to a speaker of the Sittard dialect (gC3). Except for this case, with respect to γ^1 -weakening our sample of speakers appears to be unbiased as far as the factor c-group is concerned.

	Between ss			Within ss		
	age gr	c-gr	age x c	IvsO	age x IvsO	age x c x IvsO
	↓	↓	↓	↓	↓	↓
<i>ɣ¹-weakening</i>						
overall	.000			.001	.037	
# between words	.000			.007		
within words	.000			.001	.026	
# part of lexeme	.000			.002	.034	(.055)
part of bound morph.	.000	.025		.008		
# word-initial	.000			.006		
word-internal	.000			.011	.003	
# before vowel	.000			.004		
before liquid	.000		.022	.003	.001	
<i>n-deletion</i>						
overall	.011	.004		(.065)		
# I-lower, not relevant	.012	.016		(.065)		
# in verb forms		.008		(.067)		
# verbs: d.Sitt. no /n/				.023		
# stressed		.003		.019		
unstressed	.009				.014	.036
# lexical H	.002			(.060)		
no lexical H		.016		.044		
# before pause	.020	.000	.000			.002
<i>t-deletion</i>						
overall	.006			.048		
# after stop						.044
# before pause				.013	.036	

Table 11.5 Analyses of variance for the spontaneous dialect use; accommodation as the repeated measures factor in- vs. out-group contact ('IvsO'; all three factors fixed). Probabilities of the effects. The symbol # indicates a linguistic condition which is part of a separate linguistic dimension

Significant interaction effects between in- vs. out-group contact and age group on the application of the γ^1 -weakening rule were established on the overall level and in the linguistic conditions 'within words', in case the $/\gamma^1/$ is 'part of a lexeme', 'word-internally' and before a liquid, hence once in every linguistic dimension. They can all be interpreted as 'bottom-effects': accommodation is clearest in the dialect use of the speakers of the Older age group, somewhat less in the output of the representatives of the Middle, and least in the speech of the members of the Younger age group. This effect was to be expected in view of the distribution of the use of the rule among the three generations, i.e. in view of the dramatic apparent time decrease.

The only instance of a significant interaction effect of the factors age group and c-group on our informants' spontaneous dialect use can be found in the use of the weakening rule before liquids. In this environment, the frequency of use by the Older speakers from gC2 via gC3 to gC4.¹⁰ The other two age groups showed the reverse pattern, i.e. the one to be expected on sociolinguistic grounds.

In the overall use of the *n-deletion* rule, accommodation does not reach significance at the .05 level. Overall and, specifically, in words in which I-lowering is not relevant, in verb forms and in words with a lexically present High tone, the effect of the factor in- vs. out-group contact reaches probability levels of about .065. This justifies speaking of a 'trend', which is the reason why we chose not to exclude these cases from our study of accommodation. Furthermore, in words which do not have a lexical H, in verb forms of which the Sittard dialect equivalents have another final segment (see § 8.5.2 above), in stressed position and before a pause, the effect of the factor in- vs. out-group contact on the use of the *n-deletion* rule is significant to highly significant. In short, significant or nearly significant accommodation occurs in every linguistic dimension that we distinguished for the analysis of the occurrence of the *n-deletion* rule.

There are five instances in which, apart from accommodation, there is at the same time a significant age group effect. Except in the condition 'before a pause', these age group effects come down to apparent time loss of the deletion rule. In all four cases, the difference between the means for the Middle-aged and the Younger speakers is fairly small. In three of the four cases, a consistent decrease appears to be taking place, witness the age group pattern: Older > Middle > Younger. The one case of apparent time loss which does not show this age group pattern concerns the overall use of the rule (cf. Table 11.3 above).

In six of the instances where (nearly) significant accommodation occurs, the factor c-group appears to have a significant effect as well. One of these instances concerns the overall use of the rule. In all six cases, the c-group effect on the application of the

¹⁰ In § 10.3.3 above we reported on this very finding for γ^1 -weakening before liquids in the out-group data alone. However, as can be seen in Table 11.5, the effect of the interaction between the factors c-groups and in- vs. out-group contact on the use of the rule in this condition does not reach the level of (near) significance, and neither does the second-order interaction.

n-deletion rule in the conversational data (i.e. in the in-group and out-group data taken together) amounts to a pattern $gC2 > gC4 > gC3$. This means that, as far as the use of the n-deletion rule in the relevant cases is concerned, there are differences between groups of speakers in our sample; the groups coincide with the division relevant to the between subjects factor out-group contact situation. However, this bias is alleviated by the fact that across the six relevant cases the proportions n-deletion between the three c-groups are far from constant.

An interaction effect of the factors in- vs. out-group contact and age group only occurs in unstressed words. It is peculiar that in this condition, the Older speakers apply the n-deletion rule more often in out-group interaction. For the representatives of the Middle age group, in- and out-group means are almost equal, and the Younger speakers use the rule more often in in- than in out-group contact in this condition.

Very few instances of accommodation were found in the application of the *t-deletion* rule. Significant (or nearly significant) effects of the factor in- vs. out-group contact occur in the overall use of the rule, and specifically before a pause. It does not come as a big surprise that before a pause word-final [t]s are deleted clearly less often in out-group contact, for in that position deletion is highly salient.

In addition to the accommodation effect, there is also a significant age group effect on the overall frequency of t-deletion throughout the spontaneous, conversational dialect use. This effect comes down to an apparent time increase. However, as far as the overall indexes are concerned, no interesting interaction occurs between the factors age group and in- vs. out-group contact. Neither does it occur in any of the linguistic conditions that we distinguished in the analysis of our speaker's application of the t-deletion rule. Hence, in contrast to what might have been expected in the light of the findings for γ^1 -weakening, accommodation in the application of the t-deletion rule does not become more evident in the course of time. A remarkable, though extreme, case in point is the Younger speaker mentioned at the end of § 11.2 above, who had an overall t-deletion score of 25 / 25 for the in-group conversation. In the conversation with a speaker of the regional standard variety (out-group contact situation C4), he hardly accommodated his t-deletion behaviour, scoring 32 / 33 overall.

11.3.2 The third level of analysis: accommodation as a function of the distance of the contact variety

In chapter 10 some attention was paid to the differences in dialect use between the three out-group contact situations. In the preceding subsection, we concentrated on accommodation in dialect use towards speakers of related other varieties. Accommodation was traced by comparing our speakers' out-group dialect use to their in-group dialect use.

The three dialect features studied in this connection differ gradually in their geographical spread. As can be seen in Table 11.5 above, the relative number of different linguistic conditions in which accommodation occurs is inversely proportional to the geographical spread of a dialect feature. In this pattern of accommodation there is something of a trade-off relationship between dialect-geographical and structural gradualness.

On the assumption that language accommodation is interactionally determined, it must be related not only to a speaker's 'normal', everyday language use, but also to the language use of his interlocutor. In our data the first point of reference is our speakers' in-group dialect use (C1); the other one, the variety spoken by the interlocutor, was systematically varied between the three out-group contact situations C2, C3 and C4. Comparing the speakers' out-group dialect use to their in-group speech (C1) shows whether accommodation occurs. Relating accommodation to C2, C3 and C4 makes it possible to establish to what extent accommodation is determined by the language variety spoken by the interlocutors.

In the present subsection, the data for out-group dialect use will again be compared to the in-group ones, but this time accommodation will be broken down for the three out-group contact situations. To be able to interpret the results, it is necessary first to outline our concept and the way it was implemented.

In his unsurpassed paper from 1984, "Language style as audience design", Bell investigated, among other things, the hypothesis that "a sociolinguistic variable which is differentiated by certain speaker characteristics (e.g. by class or gender or age) tends to be differentiated in speech to addressees with those same characteristics". That is, speakers are inclined to shift relative to "their addressees' levels for specific linguistic variables" (Bell 1984: 167).

Following this line of reasoning, we predict accommodation to increase with the distance between the varieties involved in the out-group contact.

The varieties spoken by our speakers' interlocutors in the out-group contact situations were the Waubach/Groenstraat dialect varieties (in C2), the Sittard dialect (in C3) and the regional variety of the Dutch standard language (in C4). These varieties were chosen so that the degrees of geographical and structural distance to the Rimburch dialect match.¹¹ We operationalize structural distance as the number of LVs which the varieties involved in the contact do not have in common. The varieties involved in our data for spontaneous dialect use can be ordered according to their structural distance also for the three LVs that we selected. The γ^1 -weakening rule exists only in the Rimburch dialect itself (C1). The rule for n-deletion occurs in the Rimburch and in the Waubach/Groenstraat dialects (C1 and C2), and the rule for

¹¹ Cf. §§ 4.1, 4.2.1, 4.4.2 and 8.2 above.

word-final t-deletion is common to the Rimburg, the Waubach/Groenstraat as well as the Sittard dialects (C1, C2 and C3). Word-final t-deletion also occurs in the regional standard variety (C4 - cf. 'Umgangssprache'; § 1.3.2 above), although to a much lesser extent. In other words, as far as their geographical spread is concerned our three LVs can be ordered on a scale - as in Table 11.6 below.

	C1	C2	C3	C4
γ^l -weakening	+	-	-	-
n-deletion	+	+	-	-
t-deletion	+	+	+	±

Table 11.6 The occurrence of the three dialect features in the four contact varieties involved in the conversations

Taking this scale as a starting-point, i.e. given the presence or absence of each of the rules in the varieties spoken by our speakers' interlocutors, our approach to accommodation in dialect use can be considerably refined. This approach is based on the data regarding the relative frequency of occurrence of each of the three dialect features in the in-group and in each of the three out-group contact situations. In Table 11.7 these data are presented for the entire sample - undifferentiated for both the speakers' age groups and linguistic conditions.

	In-group	Out-group		
	C1	C2	C3	C4
γ^l -weakening	31.62	22.70	16.30	27.78
n-deletion	45.06	48.95	35.01	33.97
t-deletion	80.32	74.18	80.45	74.94

Table 11.7 The mean use of the three dialect features in the four interactional conditions

For γ^l -weakening and t-deletion, the numerical patterns do not seem to look very promising at first sight. However we should take account of the fact that the averages for C1 are based on the speech of all 27 people in the sample, whereas those for each of the out-group conditions C2, C3 and C4 are based on the speech of the 9 members of the respective c-groups.

Given the presence or absence of each dialect feature in the three out-group contact varieties, accommodation theory predicts the following significant effects (cf. Fig. 11.3):

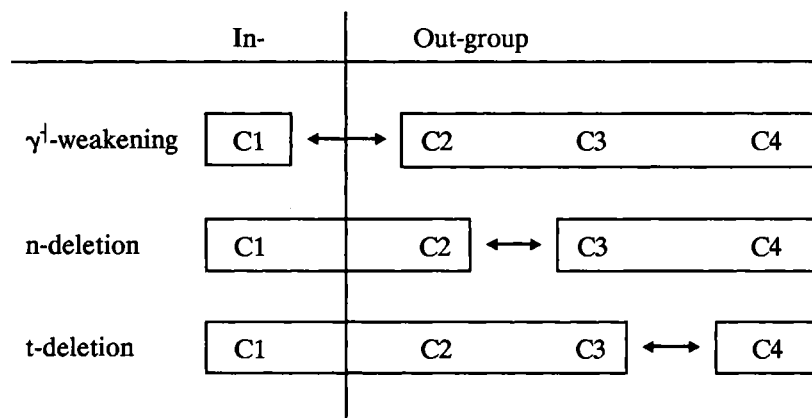


Figure 11.3 Predictions regarding accommodation as a function of the distance of the three out-group contact varieties (C2, C3 and C4)

Explicitly, in connection with the use of the γ^l -weakening rule, differences are to be expected between

- C1 and C2,
- C1 and C3, and
- C1 and C4,

not, however, between

- C2 and C3,
- C2 and C4, and
- C3 and C4.

For the use of the n-deletion rule, differences are to be expected between

- C1 and C3,
- C1 and C4,
- C2 and C3, and
- C2 and C4,

not, however, between

- C1 and C2, and
- C3 and C4.

Finally, for the use of the t-deletion rule, differences are to be expected between

- C1 and C4,
- C2 and C4, and
- C3 and C4,

not, however, between

- C1 and C2,
- C1 and C3, and
- C2 and C3.

This amounts to the following three predictions:¹²

- (1) As we just saw, in contrast to the two deletion rules, the γ^1 -weakening rule only occurs in the in-group contact variety (C1), and not in any of the out-group contact varieties in C2, C3 and C4 (see Table 11.6). Hence, the different c-groups are not expected to differ in accommodation ('IvsO') in the use of this rule. Therefore we predict that in the use of the γ^1 -weakening rule there is no significant interaction effect between the factors in- vs. out-group contact and c-group. In the use of the two deletion rules, on the other hand, this interaction effect is predicted to be significant. Moreover,
- (2) the cases that meet prediction (1) should, at the same time, display the above patterns regarding the significance of the differences in dialect use between the out-group contact situations C2, C3 en C4.
- (3) In case we would establish for each of the three c-groups separately whether their use of the dialect features shows significant accommodation, we should find the patterns visualized in Table 11.8:

	gC2	gC3	gC4
γ^1 -weakening	+	+	+
n-deletion	-	+	+
t-deletion	-	-	+

Table 11.8 Predictions regarding the significance of the differences in the mean use of the dialect features between the in-group (C1) and the three out-group contact situations (C2, C3 and C4)

Each of these three predictions is a necessary, but not a sufficient condition. Prediction (1) only concerns the probability of the interaction effect. The predictions (2) and (3) only concern the direction - so to speak - of the interaction effect, i.e. the 'site' where the break should occur, seen from two different perspectives. Apart from the absence (γ^1 -weakening) and the presence of such an interaction effect (n-deletion and t-deletion), respectively, the above conditions regarding the differences in dialect use and in accommodation between C2, C3 and C4 should also be satisfied. This is why the predictions (2) and (3) were formulated.

¹² Before we can discuss the main findings, a few final points of methodology must be made explicit which are necessarily rather technical.

The three predictions are therefore complementary. Something will only be considered a case of geographically gradual accommodation in the sense of the model outlined above if all three predictions are simultaneously true.

Of course, to check whether these three requirements are met, we did not limit ourselves to the use of the dialect features on the overall level. Again, it was also investigated in the several linguistic conditions.

Actually, the outcomes relevant to the first prediction are already at our disposal. They can be found in Table 11.5 above, and they are one of the two types of interaction effect we did not discuss in the preceding subsection; the other one is the second-order interaction, i.e. the one between age group, c-group and in- vs. out-group contact. The (nearly) significant instances of both interaction effects were presented in the rightmost two columns in Table 11.5. To test the second prediction, which should be seen as a complement to the first one, mean range tests¹³ were performed on the out-group data alone. The last of the three, logically related, predictions was tested through analyses of variance run for each of the c-groups separately. Of course, the latter analyses were performed with in- vs. out-group contact as within subjects (repeated measures) factor and age group as between subjects factor; in the results of these analyses, we were mainly interested in the main effect for accommodation.¹⁴

As we pointed out above: what counts is only the intersection, that is, those cases in which all three predictions are borne out. Taking this insight as our guideline, consider Table 11.9 below. In this table the main outcomes are summarized of the tests of the three predictions regarding accommodation as a function of the distance of the contact variety.

It is quite clear from Table 11.9 that none of the three LVs meet all three predictions. For γ^1 -weakening and n-deletion the third prediction is not borne out; for t-deletion the third prediction is not borne out; for n-deletion and t-deletion the second prediction fails. What follows in the remainder of this subsection does not alter the fact that this part of our research shows no evidence in favour of our idea. Nevertheless, a few interesting aspects can be pointed out in the patterns that we found.

¹³ Namely the Student-Newman-Keuls as well as the Scheffé test for multiple-comparison between means; in both tests α was set at the .05 level. On the basis of the outcomes, homogeneous subsets were determined. In all the cases discussed here, the two tests produced identical results.

¹⁴ Very few cases were found of a significant interaction between in- vs. out-group contact and the speakers' age groups.

LV	predicted	observed
γ^l -weakening		
(1)	no signif. interaction effect accomm. x c-group	on the overall level and in all ling. conditions except 'part of lexeme'
(2)	no signif. differences between C2 and C3, C2 and C4, C3 and C4	okay
(3)	+ + +	nowhere
n-deletion		
(1)	signif. interaction effect accomm. x c-group	in the ling. condition 'before a pause'
(2)	signif. differences between C2 and C3, C2 and C4, no signif. difference between C3 and C4	no single difference is signif.
(3)	- + +	nowhere
t-deletion		
(1)	signif. interaction effect accomm. x c-group	in the ling. condition 'before a pause'
(2)	signif. differences between C2 and C4, C3 and C4, no signif. difference between C2 and C3	no single difference is signif.
(3)	- - +	on the overall level and in the ling. condition 'bound morpheme'

Table 11.9 An evaluation of the predictions regarding accommodation as a function of the distance of the contact variety

With respect to *n-deletion* some additional remarks are in order in connection with the analyses whose outcomes served to test the first and the third prediction. As far as the outcomes of the analyses presented in Table 11.5 are concerned, it is rather

striking that no (nearly) significant interaction effect was found between accommodation and c-group in the use of the rule in verb forms whose Sittard dialect variants have a final segment other than /n/. In view of the structural distance that already exists between the lexical representations of the relevant verb forms in the two dialects, one might have expected a 'dip', i.e. extra accommodation, in the use of the n-deletion rule in this condition by the subgroup of informants who talked to a speaker of the Sittard dialect (gC3). After all, the rule hardly occurs at all in the Sittard dialect.¹⁵ No clear accommodation took place in that particular interactional situation, however; this is also evident from the results of the analyses which were performed for each of the three c-groups separately to test prediction (3).

In the use of the n-deletion rule in relatively unstressed words we found a significant second-order interaction effect. The nature of this interaction is as follows: in their conversations with a speaker of the Waubach/Groenstraat variety (gC2) and with a speaker of the Sittard dialect (gC3), the respective representatives of the Older age group deleted more final /n/s than in in-group interaction. The same pattern, i.e. increased application of the n-deletion rule in unstressed words, occurred in the dialect use of the subgroup of Middle-aged speakers who talked to a speaker of the Waubach/Groenstraat variety (gC2). In all other subgroups, the out-group dialect use showed accommodation in the sense we attached to that notion.

An interesting second-order interaction effect on the application of the *t*-deletion rule occurs in the condition 'after stops'. In their conversations with a speaker of the Waubach/Groenstraat variety (gC2), the representatives of the Older and Middle age groups deleted more [t]s than they did in in-group interaction. The same pattern, i.e. increased t-deletion after stops, occurred in the conversation with a speaker of the Sittard dialect (gC3) and with a speaker of the regional standard variety (gC4) of speakers from the Younger age group. In all other subgroups, the use of the t-deletion rule in this condition showed accommodation in the sense of a decrease in the use of a dialect feature. The increased use of the t-deletion rule by the Younger speakers of the Rimburg dialect in situations of contact with speakers of relatively distant varieties seems interesting in the light of the growing use of this, areally comparatively widespread, LV.

In § 11.3.1 we determined that our data contain many convincing indications of accommodation in dialect use. In the present subsection, however, we discovered that there is no evidence for the idea that this kind of accommodation is related to the variety spoken by the out-group interlocutor.

¹⁵ See § 8.5.2 above for an exact description.

11.4 The findings regarding accommodation: outline and evaluation

In the preceding two subsections we have attempted to trace accommodation in spontaneous dialect use. Accommodation in the use of the γ^1 -weakening rule was found on the overall level and in each single linguistic condition. In the application of the n-deletion rule, accommodation occurs on every linguistic dimension, but not in every linguistic condition. Some of the instances of accommodation are just outside the limits set for statistical significance; this is also the case in the overall use of the rule. In six of the instances in which accommodation in the application of the n-deletion rule is (nearly) significant, at the same time differences occur in the use of the rule between the speakers in our sample; the groups involved are identical to those distinguished in connection with the between subjects factor out-group contact situation. This bias does not invalidate the findings regarding accommodation, but it certainly does not make them more reliable. Especially from the perspective of the number of linguistic conditions studied, accommodation in the application of the rule for word-final t-deletion turned out to be rare. Except in the overall use, it was established in the use of the rule before a pause. In this environment the accommodation in the use of both deletion rules is highly significant.

From these findings it appears that, taking into account the relative number of different linguistic conditions, accommodation is more evident as the areal spread of the dialect feature concerned is smaller. So in this particular respect, accommodation is dialect-geographically gradual. The question whether or not accommodation is dialect-geographically gradual can, however, be approached from two different angles. The one just pointed out concerns the relative geographical dispersion of the LVs involved. The second perspective from which accommodation may be assumed to be dialect-geographically gradual concerns the distance of the (contact) variety, in terms of the existence or absence of the LVs in the variety spoken by the interlocutor.

The outcomes of more refined statistical analyses suggest that the model in which accommodation is gradually dependent on the distance of the contact variety has to be rejected. Not a single instance was found in which the use (either overall or in a specific linguistic condition) of any of our three LVs meets all three, logically related, relevant predictions. We therefore conclude that there is no indication that speech accommodation¹⁶ is a dialect-geographically gradual phenomenon to the extent that the existence or absence of LVs in the variety spoken by the interlocutor plays a significant role.

The latter finding contrasts with the former one, that the relative areal spread of the features of the speaker's dialect is of importance to the accommodation process. In short, the claim according to which accommodation in dialect use is dialect-geographically gradual is

¹⁶ In the restricted meaning attached to that notion in § 11.2 above.

- supported insofar as the degree in which LVs are unique for the speaker's dialect allows predictions about the relative number of different linguistic conditions in which accommodation occurs,
- rejected insofar as the structural distance of interlocutor's variety is concerned.

How certain can we be about the latter finding? After all, the data for the relevant part of our investigation were distilled from the dialect use of no more than three speakers per age group in each of the three out-group contact situations. We should therefore realize that there is a considerable risk of a Type II-error, i.e. of rejecting a claim (in this case the claim that accommodation is a function of the distance from the contact variety) when it is true. This is not the only methodological reservation which is a reason for caution in this connection. An equally important one, which has a more general bearing, concerns the selection of LVs. However carefully the final choice was made, we cannot be sure whether we would have obtained similar results for other dialect features.

As we pointed out explicitly throughout the preceding subsection, in extralinguistic respects our approach has been one-sidedly dialect-geographical. However, the findings presented in Chs. 9 and 10 made clear that, apart from dialectological, also socio-economic factors such as educational background and occupational level play a certain role, particularly in the use of the two deletion rules. So if we had manipulated the interlocutors' socio-economic background instead of the (contact) variety they spoke, we might have found more instances of accommodation in the use of the deletion rules.

An even more fundamental question is the following: must accommodation manifest itself quantitatively to such a degree that statistically significant differences with one's day-to-day in-group speech are reached? Or may just one or very few adaptations be sufficient to be evaluated as accommodation?¹⁷ Do different LVs behave differently in this respect? In the case of the (hypothetical) LVs for which the latter of the two scenarios holds, the mechanisms to which Trudgill's thesis and our third hypothesis refer very obviously do not apply.

11.5 Testing hypothesis III

So how about our hypothesis regarding the foreshadowing of processes of dialect levelling in accommodation? Clearly, dialect levelling and accommodation in dialect use appeal to different dimensions - at least in the design of our investigation. Dialect levelling was studied in apparent time, whereas accommodation was operationalized

¹⁷ Cf. Boves et al. 1990: 67 and, more generally on the possible subtlety and complexity of such processes, Le Page & Tabouret-Keller 1985: 185-86.

as convergence, and specifically a decrease in the use of dialect features, in situations of contact with speakers of less 'deep' varieties. As was argued in § 11.1, as far as levelling is concerned, testing the third hypothesis will be limited to the findings for the in-group data. Does this method produce any evidence for the reflection of levelling in accommodation? The answer depends partly on how the notion of dialect levelling is operationalized.

If it is operationalized¹⁸ as either the loss of geographically limited dialect features, or the growing use of more widely distributed ones, the hypothesis is supported by our findings. It is supported, first of all, on a general level. The effects of the variables age group which were found to come down to levelling and in- vs. out-group contact¹⁹ (accommodation) show identical patterns across the three dialect features. Both reach statistical significance in the use of the rules for γ^1 -weakening and word-final t-deletion, but not in our speakers' application of the n-deletion rule. On the level of the individual dialect features, positive evidence for the third hypothesis is very clearly provided by our findings for γ^1 -weakening: on the overall level and in all separate linguistic conditions, the application of this rule is subject to both accommodation and levelling. As for n-deletion, it is most remarkable that the effects of the factors age group ($p=.0594$) and in- vs. out-group contact ($p=.065$) on the *overall* use are both just outside the level of significance.²⁰ Both levelling and accommodation seem to hesitate, as it were, in the overall application of the n-deletion rule. Two out of the four *linguistic conditions* in which this deletion rule is undergoing significant levelling²¹ (namely in words which are not relevant to the I-lowering rule and in words with a lexical High tone), exhibit nearly significant accommodation effects. As far as t-deletion is concerned, levelling appeared to be taking place only in overall use; except on that general level, accommodation effects were found only in the linguistic condition before a pause.

In sum, there is sufficient support for our third hypothesis in case levelling is defined as structural homogenization across dialects and operationalized as either the loss of dialect features with a relatively restricted areal spread (γ^1 -weakening and n-deletion) or the increasing use of fairly widespread features (t-deletion). If, however, the meaning of the notion dialect levelling is restricted to the loss of dialect features, there is considerably less evidence in favour of our last hypothesis, since the use of the t-deletion rule shows accommodation but the opposite of loss. Consider Table 11.10.

¹⁸ As we did; cf. §§ 4.14 and 8.2 above.

¹⁹ Of course, we test conservatively in limiting ourselves to the main effects of the variable.

²⁰ Cf. Table 9.5 (in § 9.3) and Table 11.5 (in § 11.3.1 above).

²¹ Cf. Table 9.9 in § 9.3.1 above.

	γ^1 -weakening	n-deletion	t-deletion
levelling			
= structural homogenization across dialects	+	'trend'	+
= loss of dialect features	+	'trend'	-
accommodation	+	'trend'	+

Table 11.10 The effects of levelling and accommodation in the overall use of the three dialect features in the spontaneous data

In Trudgill's (1986) conception of dialect levelling as reflected in accommodation, the notion dialect levelling only refers to the loss of features that distinguish individual dialects or groups of dialects from others - especially the standard language. It does not concern the growing use of non-standard features (like our rule for word-final t-deletion) at the expense of dialect-geographically limited ones. As far as our findings are concerned, the hypothesis is correct if we look upon dialect levelling from a somewhat wider perspective, namely as a process of homogenization through structural unification of different dialects.

In a paper from 1990, Farida Abu-Haidar reported on a study of the Arabic dialect spoken by the members of the Christian minority of Baghdad. She addressed the question whether the accommodation in 'accent patterns' towards the variety spoken by the Muslim majority is only short-term or whether it leads to 'dialect shift', i.e. dialect loss in our terminology (see § 1.2.1 above). Her data led her to the conclusion that for some 'Christian' features the accommodation indeed results in their loss. For other features, and especially for features which are shared with similar dialects, the process remains restricted to situational, short-term accommodation.

In our data similar cases can be found in the patterns in the use of the n-deletion rule in a few linguistic conditions, such as 'stress' and in verb forms, the Sittard dialect equivalents of which have another final segment.²² It may well be the case that in the course of time the accommodation in the application of the rule in these conditions

²² As becomes clear by comparing the relevant findings presented in Table 11.5 with those in Table 9.9 in § 9.3.1 above.

will result in further erosion of the rule, so that after one or two generations from now levelling might also be detected in these conditions.

Although it does not encompass comparison of dialect levelling and accommodation as such, there is one more finding that we feel should be mentioned here. In the overall use of the γ^l -weakening rule, and in one condition in each of the four linguistic dimensions in which the application of the rule was studied, accommodation decreases with decreasing age of the speakers. This did not come as a big surprise in the light of the earlier finding²³ that the use of the γ^l -weakening rule shows a dramatic loss. One might have expected the opposite development in accommodation in the application of the t-deletion rule, the use of which was found to be growing considerably. As we already pointed out in § 11.3.1 above, the outcomes of the statistical analyses do not indicate such a development, however: despite the increasing frequency of application of the t-deletion rule, accommodation in the use of the rule does not become more evident in the course of time.

In short, in contrast to the apparent time dynamics in their use, the apparent time patterns in accommodation in the use of the rules for γ^l -weakening and t-deletion are not mirror images of one another. The explanation seems obvious: unlike γ^l -weakening, word-final t-deletion occurs in the varieties spoken by our speakers' interlocutors in the out-group conversations. The problem with this explanation is that in the overall out-group use of the t-deletion rule accommodation in the sense of decreasing application *did* occur. In the linguistic condition 'before a pause', the accommodation in t-deletion even appeared to depend on the contact variety (cf. Table 11.5 above).

So although we have finally succeeded in evaluating the hypothesis regarding the reflection of dialect levelling in accommodation, we conclude this section and the investigation proper with an unresolved problem. However this problem is only tangentially related to hypothesis III.

11.6 Summary

According to our sociolinguistic model, dialect levelling is the linguistic consequence of sustained, frequent accommodation on the part of its speakers. This is why accommodation and levelling are predicted to show analogous patterns. The main aim of this chapter was to test the hypothesis that levelling is reflected in accommodation in dialect use.

Throughout this investigation dialect levelling was studied in apparent time, i.e. via the speakers' age groups. To study accommodation, spontaneous dialect use was recorded in in-group and in out-group contact situations. Three out-group contact

²³ From the spontaneous (in-group and out-group) as well as the elicited dialect use.

situations were created, which differed from one another in the structural distance between our speakers' dialect and the variety spoken by their interlocutors. Like age group, out-group contact situation was operationalized as a between subjects factor.

In § 11.2 our operational definition of the notion of accommodation was further refined on the basis of some of the relevant recent literature. It should be stressed that our approach to accommodation is a restricted one. Mainly for the sake of the testability of the hypothesis, we chose to limit ourselves to instances of objective linguistic accommodation, consisting of convergence manifested in a decrease in dialect use. This was operationalized as a lower frequency of use of dialect features in out-group than in in-group contact situations.

In § 11.3 we traced accommodation through the comparison of the overall patterns in the use of the three dialect features in the in-group and out-group data. In § 11.3.1 we first presented the results of an analysis on a fairly general level. A clear accommodation effect was established for overall dialect use. Furthermore, accommodation turned out to be independent of both the speakers' age groups and the LVs studied. However, additional analyses regarding the use of the individual LVs made clear that the relative number of linguistic conditions in which accommodation occurs is highest for γ^1 -weakening and lowest for t-deletion. Moreover, mainly in connection with γ^1 -weakening, the 'degree' of accommodation drops with the speakers' age group - parallel to the average application of the rule.

As is suggested by the finding that the proportion of linguistic conditions which are subject to accommodation is highest in γ^1 -weakening and lowest in t-deletion, accommodation is dialect-geographically gradual insofar as the relative areal spread of a dialect feature is concerned. The more an LV is unique for a speaker's dialect, the more he will accommodate its use in situations of out-group contact. The dialect-geographical gradualness of accommodation was also studied from the point of view of the interlocutor's variety. Our findings did not provide any evidence in favour of the idea that accommodation is related to the structural distance of the interlocutor's variety (§ 11.3.2). It should be noted, however, that relatively few speakers were involved in this latter part of the study, namely three representatives per age group for each of the three out-group contact situations.

The evaluation of the third hypothesis (§ 11.5) merely consisted of comparing the findings for accommodation as such with those concerning levelling. It was found that the extent to which the hypothesis is supported depends partly on the operational definition of the notion of dialect levelling. If one operationalizes it (as we did) as either the loss of geographically limited dialect features (i.e. γ^1 -weakening and n-deletion), or the increasing use of fairly widespread phenomena (t-deletion), the hypothesis is clearly supported. However, dialect levelling may also be operationalized as the loss of features which distinguish individual dialects or groups of dialects from others, as is the case in Trudgill's (1986) conception of the hypothesis. In case this more restrictive operationalization is applied, the data show considerably less evidence in favour of the hypothesis which predicts levelling to be foreshadowed in accommodation.

Quite independent of these results, part of the value of this final part of our study lies in the fact that a relatively simple and feasible method was proposed to test this claim on the basis of synchronic data.

Part V

Sizing up and looking ahead

Chapter 12

Discussion and some issues for further research

12.1 Introduction

The main findings of this study were summarized in the final sections of chapters 6, 7, 9, 10 and 11. In this final chapter these findings will be considered from a general perspective. They will be discussed in the light of the sociolinguistic and phonological models adopted in this investigation (§§ 12.2 and 12.3), as well as from a methodological point of view (§ 12.4). Some of our findings will also be compared with those from other studies.

Each section will end with some issues for further research.

12.2 The sociolinguistic model of dialect levelling

In this section we will present some concluding remarks regarding the sociolinguistic model of dialect levelling which was developed and tested in the present investigation. In § 12.2.1 we will discuss our approach to the hypotheses derived from this model and the main findings. In § 12.2.2 we will present some issues which we think are relevant to the development of a sociolinguistic *theory* of dialect levelling. In § 12.2.3 some issues will be offered that further research might focus on.

12.2.1 Discussion: the three hypotheses

We have found much evidence in favour of our three hypotheses. On some points in the data, however, such positive evidence is lacking, and in a small number of cases the observed patterns are even opposite to what we predicted on the basis of our model.

From a Popperian position even the slightest falsification should lead to the rejection or, at least, revision of one's model or theory. So far we have not drawn this consequence, however, and we would only do so if no other option were available. Meanwhile, we would examine each single 'counter-finding' and try to demonstrate that it is not in fact counterevidence. In this connection, too, we need to further ponder the question how and to what extent the strict Popperian view and the probabilistic approach are compatible (cf. §§ 2.2, 2.5.1). We will not be concerned with this issue here, however.

According to HYPOTHESIS I, dialect levelling is a two-dimensional process in that it affects not only variation on the dialect - standard language dimension but also cross-dialectal variation, while in processes of dialect levelling both dimensions can be mutually independent. Of course, this hypothesis can be thoroughly tested only on the basis of dialects which are structurally sufficiently different from both the standard language and from surrounding dialects - as is the case with the Rimbürg dialect.

Although today the levelling out of differences between dialect and standard language appears to be the more common case, historically the levelling of cross-dialectal variation is most probably the older of the two forms (cf. § 1.3.2 above). However, levelling out variation between related dialects is still not uncommon nowadays, witness e.g. one of the findings presented in Dunaj (1989: 40). In a study of the social stratification of Polish in Cracow, Dunaj found indications that differences between the urban vernacular and surrounding rural dialects were levelled out. However, rather than being independent of the process of standardization, this development is a consequence of standardization: it results both from avoiding non-standard and from introducing standard segments. Edgar Radtke (1987: 1498) sketches a case of de-dialectalization through the loss of a phonological rule in a variety of Italian spoken in the province of Catanzaro. This change amounts to levelling not only on the dialect - standard axis, but at the same time to levelling of differences between closely related Calabrian dialects.

In the loss of the deeply dialectal γ^1 -weakening rule (§ 5.3.2), evident in all three types of data analysed in the present investigation, levelling on the cross-dialectal dimension does not completely coincide with levelling on the dialect - standard dimension. The fact that the rule does not exist in the East-Limburg nor in the transition zone dialects does not yet make this change an instance of levelling in the interdialectal dimension alone. However, if the weakening rule is not used, as in the case of loss, the $/\gamma^1/$ remains a palato-velar fricative, as it is in the East-Limburg and in the transition zone dialects (see Map 2 in Ch. 3). Hence its place of articulation is not velar-uvular, as it is in the standard Dutch realization.

We also traced developments which show that levelling can occur in the inter-dialectal dimension independently of the dialect - standard axis. One of these developments consists of the loss of the 'Ach-laut' allophony rule (§§ 5.3.1, 6.3.1). After the loss of the allophony rule, $/ç/$ remains and occupies the place of the former $/x/$ allophone. The segment $/x/$ is identical to the equivalent of standard Dutch, which does not have this allophony rule. The 'surviving' $/ç/$, on the other hand, is identical to the distributionally corresponding segment in the East-Limburg and transition zone dialects, which also lack the allophony rule. Hence the loss of allophony is a clear case of levelling on the dialectal dimension alone.

Many Limburg dialects have a rule which palatalizes $/s/$ in onset position if it is followed by another consonant (cf. § 2.5). In the dialect spoken in Rimbürg, however, this rule is not allowed to apply to the $/s/$ which is inserted between the dialectal diminutive suffix $-kə$ and a noun which ends in a velar consonant. In Ubach over Worms, the non-application of s-palatalization in this context originally had the same

relative geographical spread as γ^l -weakening and the 'Ach-laut' allophony rule. However, from our findings it appears that in the Rimbürg dialect the palatalization rule is increasingly allowed to operate in this specific position. The allomorph [skə] is therefore changing to [ʃkə]. This is a remarkable development, since originally [ʃkə] can only be found in the neighbouring transition zone dialects. The non-contiguous East-Limburg dialects, which are in turn situated west of the transition zone, likewise have [skə], i.e. palatalization of the epenthetic /s/ does not occur, but there the situation is stable. Also in this connection the Rimbürg dialect is therefore undergoing interdialectal levelling, since in the standard language the diminutive suffix [kə] and its allomorph [skə] or [ʃkə] do not occur - let alone the s-palatalization rule.

In the case of the loss of the 'Ach-laut' allophony and of the non-palatalized [s] in the diminutive suffix (§§ 5.3.5, 6.3.5), dialect levelling leads to a decrease of the structural distance from surrounding dialects, but at the same time to an increase of the structural distance from the standard language, i.e. divergence.

Pluralization in Limburg dialects is much more complex than in standard Dutch. The bulk of the difference that the number of different operations is much larger. Whereas the productive standard pluralization morphology is restricted to concatenative procedures, Limburg dialects also have a number of root-internal procedures at their disposal (§ 5.3.18). When it comes to levelling, however, the latter strikingly enough turn out to remain exempt from this process (§ 6.3.18). It again appears that dialect levelling is not necessarily equivalent to convergence to the standard language.

With respect to the developments concerning word-final t-deletion after obstruents, we noted that both dimensions differ in essential respects as far as levelling is concerned. This is also evident from one of the findings of Van Hout's (1989: 254 ff.) investigation of the linguistic situation in Nijmegen. Local and regional dialect forms are being pushed out by their standard equivalents. On the other hand, the use of dialect features which are characteristic of the variation in the standard - non-standard dimension in present-day spoken Dutch shows patterns typical of the emergence of new variants.

A similar conclusion is drawn by Holmquist (1988) in connection with the changes taking place in the Spanish dialect of Uceda (Cantabria, northern Spain). On the basis of the age group patterns in the use of some thirteen LVs, Holmquist distinguishes three clusters of dialect features. The ones in the first cluster are undergoing loss, whereas those in the third cluster show a "possible reversal". The features in the second cluster are resistant for various reasons. Remarkably, all dialect features undergoing loss are "directly associated to the dialect area", in contrast to the ones which according to Holmquist experience a revival. They "are not limited in scope or in association to the dialect area" (p. 92). Whereas the development in the former cluster goes in the direction of Castilian, i.e. standard Spanish, in the latter cases the movement is towards a "new nonstandard" (94; cf. 117-25).

HYPOTHESIS II said that dialect levelling proceeds gradually in both linguistic and extralinguistic respects. We operationalized this as gradualness in structural respects, in dialect-geographical space, and in time.

Since this investigation was based on synchronic data, the course of *time* had to be simulated. Generally, the apparent time approach to linguistic change consists of the comparison of the language use by representatives of several age groups. Throughout this investigation, our strategy assumed that if there was no statistically significant age group effect on dialect use, then no process of levelling was going on. However, significant apparent time differences in dialect use constituted only a necessary, but not a sufficient condition for dialect levelling. Of course, a significant age group effect does not necessarily mean gradualness of the process in time. But in no single case of a significant age group effect which could be interpreted as an instance of dialect levelling did the apparent time pattern indicate abrupt change. In some of the relevant cases, the relation between age group and dialect use was not linear¹; a question we have not satisfactorily considered is whether they constitute another type of gradualness of the process in time.

In § 12.4.2 we will return to the relationship between age and time, and sketch a complementary method for the study of processes of dialect levelling.

In our investigation, *geographical space* was represented by the geographical spread of the LVs. Three degrees of geographical spread were distinguished. As we showed in the first part of § 6.4.2 for the entire set of 20 LVs studied in the elicited dialect use, in general the process of dialect levelling is strongest in the LVs with the narrowest areal spread, and weakest in the LVs with the widest areal spread. The same patterns were found in the two types of spontaneous dialect use. The analyses of the latter corpora were confined to one LV for each degree of areal distribution. In Chs. 9 and 10 we saw that the application of the rule for t-deletion, the LV with the widest spatial diffusion, even shows apparent time increase. In sum, we can conclude that the part of the second hypothesis according to which dialect levelling is geographically gradual is borne out by our data. The finding that the smaller the areal spread of a dialect feature, the more it is affected by loss, in other words, that there is a high positive correlation between the areal spread of an LV and its resistance to loss is also evident in the outcomes of a study of the dialect of Burträsk in northern Sweden carried out by Thelander (1980; 1982 - cf. § 1.3.3 above).

Such findings raise an interesting question: are certain dialect features more vulnerable because of their narrow geographical distribution or is their geographical distribution so narrow as a result of earlier processes of dialect loss? In the latter case, other motivating forces may have been at work. Insofar as these forces are of a linguistic kind, the question may be considered whether, and if so how, the "changes

¹ Since there is no reason to assume linearity in processes of dialect levelling (cf. § 1.3.3), there is no need to perform tests of linearity.

owe their nature to the distance between the polar grammars of the continuum" (Bickerton 1975: 167), in the present case the grammars of the standard language on the one hand and of the several Limburg dialect types on the other. When we try to imagine the cartographical reflections of the dynamics we traced (cf. Besch 1981: 260), it becomes clear that Bloomfield was right when he stated: "It is a very naive error to mistake isoglosses for the limits of simple linguistic changes. The results of dialect geography tell us of linguistic borrowing" (1933: 480) i.e. of developments which in most cases turn out to be externally motivated.

Finally, the levelling which consists of the increasing use of the relatively widespread t-deletion rule becomes even more intriguing in the light of the fact that the use of this feature is mainly, and negatively, correlated with the speaker background variables education and occupation (Chs. 9 and 10). This can be interpreted as an instance of a new tendency for which there is an accumulating body of evidence from several language areas, especially in the Old World: in processes of linguistic change there appears to be a growing tendency for the geographical dimension to lose importance in favour of factors of a socio-economic nature (e.g. J. Goossens 1986: 260; E. Radtke 1987: 1500)

It may seem strange to use the term borrowing in the case of dialect levelling, especially if the levelling consists of rule loss. For the moment we will nevertheless adopt this notion, albeit in a more abstract meaning. The term is used to make clear that (from the perspective of the Neogrammarian typology of linguistic change) dialect levelling is not motivated by structural forces exclusively or by analogy. Nonetheless, internal forces were found to play an important guiding role. *Structurally*, only few of the cases of levelling in the use of individual LVs turned out to be context-insensitive.

One of the most interesting findings in this respect comes from our analyses of the elicited data presented in Ch. 6. Three instances were found where the levelling process has not reached statistical significance on the level of the overall use of a specific dialect feature, although its effects (loss) are already visible in the application of the feature concerned in certain linguistic conditions.

The loss of the n-deletion rule was found to be structurally gradual in this respect in all three types of data. On the level of overall use, the application of the n-deletion rule does not show statistically significant age group effects in any of the three data sets. However, such effects do occur in specific linguistic conditions (in one of nine conditions in the elicited data, in four and three of fourteen conditions in in-group and in out-group dialect use, respectively). The levelling out of this deletion rule was found to be guided by one (in-group) and two (out-group) of the six linguistic dimensions studied. In each relevant condition, n-deletion appears to be undergoing loss. Some of these conditions display rule loss in several types of data: in both types of spontaneous data the n-deletion rule was found to be losing ground in words with a lexical High tone as well as in the position before a consonant. In the latter context loss is also manifest in the age group patterns in the elicited data.

One of the insights resulting from the present investigation is that the process of dialect levelling can have various manifestations. In this connection, it is interesting to consider the dialect feature we referred to as dorsal fricative deletion, which was studied in the elicited data (cf. §§ 5.3.4 and 6.3.4). Apart from dialects with / Vçt / variants on the one hand and dialects with / V:t / on the other, i.e. variants which do not and variants which do have the feature, respectively, there is a third group of dialects having variants with the underlying structure / V:çt /. Ordered on a geographical (east - west) and, at the same time, on a structural-linguistic dimension, between these three types of dialects one finds variation of the type:

(1)	C		B		A	
	n a ç (t)	~	n a: ç (t)	~	n a: t	'night'
	l i ç (t)	~	l e: ç (t)	~	l i: t	'light' etc.

The Vç(t) variants mentioned first are the ones which are used throughout the major part of the Limburg dialect area, i.e. the dialects which we labelled as being of the C-type, better known as East-Limburg dialects. The ones mentioned last, the V:t ones, result from application of the rule of dorsal fricative deletion. These last variants are confined to the Ripuarian dialects (our A-type). Formally intermediate variants occur in the dialects spoken in the transition zone between Ripuarian and East-Limburg dialects (our B-type). In these particular dialects they occur side by side with variants of the form Vç(t). It is particularly interesting that the existence of the formally intermediate variants is limited to dialects which are geographically situated between those with Vç(t) and those with V:t. This cartographical configuration suggests that the intermediate variants result from a historical levelling process which has stabilized structurally halfway; this is an instance of what Chambers & Trudgill (1980: 132-137) refer to as 'fudging'.

Structural gradualness of processes of dialect levelling beyond the level of the single LVs may be supposed to exist between different linguistic components. Interesting in this respect are claims such as

'Dauzat's Law', which contends that: the lexicon is most exposed to influence; then come the sounds; then syntax; while morphology, "the fortress of a language, surrenders last." (Dauzat; paraphrase and translated quote by Markey 1986: 2)

Hagen & Münstermann (1985: 82-83) claim that, although there is no universal order of attrition or loss between linguistic components, investigators unanimously conclude that in general phonology is the most resistant part of a minority language or dialect. Van Bree (1985b: 10) hypothesizes among other things that, in processes of structural dialect loss, vulnerability decreases from lexicon via morphology to syntax. At least for the latter two components, the findings of an investigation performed by Van Bree in

a sample of 30 speakers of two peripheral Dutch dialects (1985b: 26) confirm the hypothesis.

As far as the present study is concerned, such claims can be tested on the basis of the findings for the elicited dialect use presented in Ch. 6. The dialect features in set C, i.e. the ones with the widest areal distribution, were evenly selected from phonology, morphophonology, morphology and morphosyntax. Neither of the two dialect features in the phonological component was found to be undergoing loss. On the other hand, the two morphophonological phenomena both appeared to be in the process of attrition, although one of the two appears to be undergoing loss only in a specific linguistic condition, i.e. not on the level of overall use. One of the dialect features in the realm of morphology was found to undergo loss, and the same holds for morphosyntax. Insofar as these results allow generalization, for the Rimbarg dialect the order of vulnerability is:

(2) morphophonology > morphosyntax and morphology > phonology

In § 12.3 we will return to a few linguistic aspects of our study, and especially to the findings regarding the role of syllable structure in the process of dialect levelling. In this way we will briefly evaluate the 'applicability' and the predictive power of the phonological model sketched in Ch. 2.

According to HYPOTHESIS III, dialect levelling is reflected in accommodation in dialect use. The idea behind this claim is that dialect levelling is the organic result of frequent accommodation during a long-lasting period of intensive contact between related varieties. Therefore accommodation can be expected to foreshadow what in the long run will result in dialect levelling. The findings from our investigation provided clear support for this hypothesis.

In our approach, the notion of accommodation was disrobed from its usual socio-psychological context (see, for instance, Boves & Knops 1989), and it was operationalized very restrictively. Moreover, it was studied on aggregated data (entire sample of speakers, age groups, 'c-groups' - see section 11.3), hence not on the level of the individual speakers alone.

Of the four audience roles distinguished by Bell (1984: 159 ff.), our investigation of accommodation in dialect use was restricted to the addressee. Through the addressee or interlocutor, the contact variety was systematically varied. All three dialect features were used significantly less frequently in out-group contact than in in-group contact; however, the occurrence or absence of each of these dialect features in the varieties spoken by our speakers' interlocutors in the three out-group contact situations did not appear to have systematic effects on accommodation. This finding amounts to a falsification of Bell's hypothesis that a dialect feature which is differentiated by certain speaker characteristics, say socio-economic background, is differentiated in speech to addressees with those characteristics, in this case according to the dialect spoken by the addressee (Bell 1984: 167 - cf. § 11.3.2 above).

As we pointed out, the last of the three hypotheses deduced from our sociolinguistic model closely resembles the thesis which forms the starting-point of Trudgill (1986). According to Trudgill, the impetus for dialect levelling is interactional. However, even on this common conceptual ground, there are two important differences between Trudgill's view and the one advanced here.

First, in Trudgill's conception, the notions of dialect levelling and accommodation do not have exactly the same meaning as they do in our model. To Trudgill, the notion of dialect levelling is confined to the loss of structural 'peculiarities' of a dialect or group of dialects. The term accommodation, on the other hand, is used mainly to refer to a speaker's adoption of features of the language variety spoken by the interlocutor. In the present study the notions dialect levelling and accommodation were used in a wider and in a partly different sense, respectively.

Secondly, in the course of the first chapter of Trudgill (1986), the author mentions no less than seventeen factors which he assumes (and in a number of cases shows) to influence accommodation. We made an inventory and classification of those factors, which -by the way- does no justice to the possible relations between them that Trudgill points out. We distinguished the following five classes of factors:

- extralinguistic characteristics of LVs,
- linguistic factors,
- variable aspects of the language contact situation,
- speaker variables, and
- interlocutor variables.

As far as the extralinguistic forces are concerned, we restricted our study of accommodation in dialect use to the speaker variable age group and, more importantly, to the interplay between the factors geographical distribution of the dialect features (an extralinguistic characteristic of the LVs) and contact variety (a variable feature of the interlocutor and the language contact situation).

Undoubtedly, we did not take sufficient account of these two fundamental differences in evaluating Trudgill's central thesis on the basis of our findings.

From a wide range of recent, sociologically inspired, studies of reported language behaviour it appears that, in general, one is relatively little inclined to speak dialect in situations which score high on the dimension public / societal / instrumental. Examples are 'talking to strangers', 'answering the telephone' and 'talking to a civil servant in the town hall'. Usually the reported dialect use is much higher in situations scoring high on the (partly independent) dimension intimate / solidary / sentimental, such as 'at home' and 'talking to one's brothers and sisters'.² One might assume (a) that situations of the latter type are perceived more as in-group and the former more as out-group contact, and

² These examples are taken from the findings of the empirical study reported on in Cucchiariini & Hinskens 1988. See § 3.3.3 above for other references.

(b) that there is a simple relationship between the probability of dialect use and the degree in which dialect use is considered appropriate in a certain interactional situation on the one hand and characteristics of dialect use in that situation on the other (cf. Mattheier 1980b: 409-411, 1984: 9-11).

Given the findings from the present study, these two assumptions would then lead one to *hypothesize* that

- accommodation occurs also between speakers of the same dialect, and
- the rate of the levelling process differs between day-to-day interactional situations or, more generally, between domains of language use (Fishman 1965).

12.2.2 From model to theory: some socio-geographical issues

In the first chapter we sketched a sociolinguistic model of dialect levelling. This model was central in our investigation. On the basis of the findings from this and other studies, a sociolinguistic theory of dialect levelling may be developed. We will not be so ambitious as to attempt this here. However, we should like to make some preliminary proposals. As far as extralinguistic factors are concerned, such a theory should in part be based on a clearly articulated socio-geographical theory. In that connection, it should be explicit on a number of relevant issues. In this subsection we will briefly present four of these issues.

(a) The decline of the 'multi-generational family', and the rise of the 'nuclear family'. This development (mentioned by Clyne 1984: 59) is one of the micro-social consequences of the historical transition from predominantly agrarian to industrial economies, and hence of the emergence of the affluent society typical of the Western World.

Growing up in a nuclear family differs in many respects from growing up in a house-hold shared by one's grandparents and other kin. As far as language acquisition is concerned, the effects on the variability in linguistic input are evident. Insofar as the dialect is transferred to the new generation, in the nuclear family it will be the variety spoken by the younger or at most the middle age group. It is likely that this variety will be structurally reduced compared to the one spoken by the older age groups.

In the ideal theory the speed of the levelling process might be related to the type of family that is predominant in different societies or in different groups within the same society.

(b) There has been a recent general increase in level of education. In present-day Dutch society, a negative correlation therefore exists between the speakers' age and their educational background. In our sample of speakers, for instance, Spearman's rho for the relation between both variables is $-.4176$ ($p=.017$ - see Table 4.3 in § 4.3.3). In this light, two questions arise:

- how generalizable is this recent tendency? How long will it continue to exist in the future? What is the situation in other countries? and
- how predictable is its impact on dialect use?

In our operationalization of the notion of dialect levelling, the age group effect on dialect use played a crucial role. But the effects of the factors age and educational background are only in part mutually independent. In § 9.3.2 we saw that after removing the part of the effect that is brought about by the several speaker background variables, including educational level, the spontaneous in-group use of the rules for γ^1 -weakening and t-deletion still turns out to be significantly related to the speakers' age, the partial correlation coefficients being .7954 (one-tailed $p=.000$) and -.5408 ($p=.005$) respectively. On the other hand, -and this is not included in Ch. 9- after elimination of the part of the effect which is due to both the remaining speaker background variables and the speakers' age, educational background still appeared to influence the application of the t-deletion rule -.4940 ($p=.010$). In other words, some 25% in the variance in the application of the word-final t-deletion rule in the day-to-day in-group dialect use of the speakers in our sample is brought about by differences in their educational background.

This issue has also been studied for the sociolinguistic situation in the city of Nijmegen (Van Hout 1989). On the basis of the outcomes of a factor analysis performed on the data for spontaneous speech, the author constructed two indexes, one of which represented the use of a cluster of features of the local or regional dialect. An analysis of covariance then showed that the age effect on the latter index literally fades into insignificance beside that of the factor education (Van Hout 1989: 255, 273-75). That is, the changes in the use of the dialect features concerned turn out to be substantially due to the increase in educational level.

It should be stressed that, apart from obvious technical discrepancies, there is a range of important methodological differences between Van Hout's study and the present one. One of these differences is the fact that in our sample the speakers' educational background was not systematically varied. But from both research projects it turns out that the factors age, educational background and dialect use are mutually related. A theory of dialect levelling should certainly be able to generate hypotheses on this complex relationship.

(c) The demographic and cultural concomitants of industrialization and urbanization. Among the geographical effects of urbanization, the growth of towns should be distinguished from their administrative 'usurpation' of neighbouring villages or hamlets. Related demographic changes (e.g. in the relative density of the population of communities and areas) are, in turn, connected with the world-wide, nearly explosive development of transport, infrastructure and traffic. The latter developments are of obvious importance to commuting and other manifestations of growing geographical mobility.

These dynamics can have a number of cultural consequences, such as changes in the position and structure of dialects. Changes in the position of a dialect may have to

do with sociologically and socio-psychologically relevant developments like decreasing 'Ortsloyalität' (cf. §§ 4.3.3 and 9.2.1 above) or, more specifically, changes in the attitudes towards the dialect. Changes of a more structural nature may lead to the emergence of new supra-local varieties, intermediate between the several dialects on the one hand and the standard language on the other. These developments may thus result in a regional koiné vernacular or in a regional variety of the standard language (to which we will return in § 12.2.3).

It seems improbable that relationships between phenomena such as industrialization, urbanization, demographic shifts, growing traffic flows, structural increases in geographical mobility, and evaluative or structural dialect change are linear. Rather, most of these processes will tend to occur at the same time, thus forming a complex agglomerate of interacting forces. Of the few sociolinguistic attempts to model this complex or parts of it, those of the German scholars Mattheier (1980a: 142-58), Schildt (1987: 1517-20) and E. Radtke (1987: 1495-97) are relatively recent. Considerably more numerous are the studies in which changes in position or structure of a dialect are related to societal dynamics of the types mentioned - certainly in the present-day western European context.

As far as our research area is concerned: in the course of the process of industrialization, which started in the first decades of the twentieth century, Heerlen and Kerkrade have developed into the centres of an agglomeration - of which Rimborg is a part (cf. § 3.2 above). During that development, Kerkrade's relative importance has clearly diminished as compared to Heerlen, which became the administrative centre for the coalmining industry. In connection with the Rimborg dialect, this assertion can be substantiated by means of Trudgill's formula for linguistic influence.³ This formula is essentially a refinement of a formula used in social geography to describe intercity migration processes (Jones & Eyles 1977: 194 ff.). The parameters in Trudgill's formula are the population of and the distance between the centres, as well as their 'prior-existing linguistic similarity'. Incidentally, Kloeke (1927: 39-43) already saw the population growth as an indicator of, or better yet, as "a secondary effect of the expansive power" of urban centres (my translation, FH).

We applied the formula and calculated the linguistic influence of Heerlen and Kerkrade on the Rimborg dialect in the year 1900, immediately before the emergence of coalmining, and in 1988, i.e. after its decline. For population we used the figures presented in Ch. 3, and distance was calculated in kilometres. To determine the values of the index of linguistic similarity, we based ourselves on our set of 20 LVs studied in the elicited dialect use. With the exception of what we referred to as '[s] in diminutive suffix' (§§ 5.3.5, 6.3.5), all these LVs occur in the Kerkrade dialect as well, which, like the Rimborg one, is an A-type Limburg dialect. Only 15 of the 20 LVs of the Rimborg dialect that we studied characterize the (B-type) dialect traditionally spoken in

³ We will base ourselves on Chambers & Trudgill 1980: 196-202. A slightly modified version was applied by Gerritsen & Jansen 1980 in a study of the historical radiation of features of the Amsterdam dialect.

Heerlen. The resulting figures were divided by 1,000,000 and truncated after three decimals. Consider Table 12.1.

	1900	1988
Kerkrade	1.025	11.799
Heerlen	0.253	7.807

Table 12.1 Linguistic influence on Rimbürg of the two urban centres in the region before the rise and after the decline of the coalmining industry

These figures show that from 1900 to 1988 the influence of Kerkrade has multiplied by 11.51, whereas the importance of Heerlen has multiplied by no less than 30.86. In 1900, Kerkrade was 4.05 times as influential as Heerlen, but in 1988 Kerkrade's influence was only 1.51 times greater than that of Heerlen. In sum, the linguistic importance to Rimbürg of both centres has grown, but that of Heerlen has grown much more than that of Kerkrade.

Our analyses of the elicited dialect use of our 27 Rimbürg speakers⁴ made it clear that four of the five A-features, i.e. those that distinguish the dialects spoken in Kerkrade and Rimbürg from those in spoken in Heerlen (B-type) and Sittard (C-type), are in the process of being levelled out; the B- and especially C-type features, the geographical spread of which is much wider, appeared to be much less endangered. With respect to the parameter geographical spread of the LVs, highly similar patterns of dialect levelling were found in our analyses of the two types of spontaneous dialect use (Chs. 9 and 10). So socio-geographical and linguistic shifts appear to coincide nicely. But what exactly is the *nature* of this relationship? In (d) below we will propose a hypothesis in which the complex of factors related to urbanization, geographical mobility, etc., also plays a role.

Apart from conceptual questions there are issues of a more technical kind. With respect to Trudgill's formula, the question arises how to incorporate economic factors such as opportunities for employment. After all, these determine, among other things, commuting and are thus among the main aspects determining the relative socio-geographical gravity of a place. Are there other models of spatial diffusion (either through expansion or reallocation) which are as easy to apply and modify as Trudgill's formula?

(d) National unification. In the course of the process which gradually transforms a state into a nation, the contacts between inhabitants of different regions become more

⁴ The findings were summarized in Table 6.25 in § 6.4.1 above.

frequent and more intensive, while the inhabitants become more similar and more dependent on one another. In other words, developments generally occur as regards

- infrastructure: transport and communication, including mass media;
- economy: the increase in scale of production and trade;
- politics: growing importance of the central government, the participation of increasingly large groups in national politics;
- culture: gradual elimination of local and regional culture.

Between the developments in these dimensions complex, rather than simple relationships exist (cf. Wilterdink 1988). The intricacies of this machinery were already appreciated by Bloomfield, who pointed out the importance for this "process of centralization" of the growth of economic and political units, and the improvement of the means of communication (1933: 481, 485).

Two closely related cultural aspects of the unification process are linguistic homogenization and standardization, the latter of which seems to be the counterpart of dialect loss in several respects. The nature of these processes should be further elucidated as such, in connection with other cultural changes, and in relation to developments in the other dimensions in the process of national unification.

In general, the processes of national unification and linguistic homogenization do not appear to run exactly parallel; the former does not stop after a nation state has taken shape, while the latter may require even more time. In a country like Italy, which in its present shape by European standards is still a relatively young state, the geographical and social spread of the -originally Tuscan- standard variety is far from complete as yet (Hall 1980; Di Luzio 1987).

In the course of the process during which a dialect attains the status of standard variety, it may start to

"influence the surrounding dialects at wider range and more pervasively as it gains in prestige. It affects especially provincial centers and, through them, their satellite dialects. [...] Both in the gradual assimilation of lesser dialects and in the conversion of individuals and families to standard speech, the result is usually imperfect and is to be described as sub-standard or, in the favorable case, as provincially colored standard." (Bloomfield 1933: 485)

Whether or not the standard language exerts its influence through 'parachuting' or jumping from town to town according to their size⁵ is an empirical question. The second claim seems much more generalizable: structural and functional dialect loss lead to the development of new varieties, intermediate between the former dialects and the standard language. Different sorts of evidence for developments of this type from the German, French and Italian language areas is briefly mentioned in

⁵ Cf. Weijnen 1977: 11; Chambers & Trudgill 1980: 192. This idea underlies the 'gravity' model applied above.

Edgar Radtke (1987: 1499-1500); Hoppenbrouwers (1983a) presents similar findings for a Brabant dialect of Dutch.

The *hypothesis* may be considered that the levelling out of variation on the dialect - standard language dimension is mainly associated with developments in the sphere of national unification, (d), whereas the reduction of cross-dialectal variation is related first of all to factors in the sphere of increasing geographical mobility, urbanization etc. - discussed under (c) above. Of course, the theory will have to elaborate this hypothesis.

12.2.3 Issues for further research

In Popper's view scientific work comes down to testing theories, with the explicit aim of falsifying them. While in this view in the end the competition between theories is central, in practice much scientific work amounts to the extension of the domain of a theory or the interpretation of new facts in the light of an existing theory. In order to confront a theory with relevant empirical facts, strategies are required for further research to supply such facts. The application of these strategies is one of the characteristics of what according to Kuhn is 'normal science'.⁶

In this subsection, we will present some strategies for further research; however, these strategies concern substantive rather than methodological issues. Some strategies of a methodological nature will be proposed in § 12.4 below.

One of the sociolinguistic questions for further research that were already brought up is the following. In Ch. 7 we focused on apparent time changes in the occurrence of dialect features which are involved in a relationship of structural dependence with (an)other dialect feature(s) in the realization of a word or phrase. In the concluding § 7.6 we advocated further research along these lines, and specifically regarding the question whether there are systematic differences in the use and levelling of dialect features between such cases of structural dependence on a local level and cases in which such a relationship does not exist.

In addition to this, further research may focus on the following issues:

- Regional standard language. We have been fairly vague with respect to the nature of the contact variety in out-group contact situation C4, the regional standard language. The problem is that in reality there is no such thing as *the* regional standard language, but this problem is not specific to our research area. It is not even specific to the Dutch language area - where the phenomenon has received very little linguistic attention as yet. German linguists and especially dialectologists, on the other hand, have shown considerable interest in what is usually referred to as 'Umgangssprache'.

⁶ Kuhn 1962: 114, 156 ff. Cf. Schnabel 1989.

A huge pile of earlier literature was summarized by Ingulf Radtke (1973), who also proposed more exact definitions. Rein (1983: 1445-46) suggested to distinguish in general three levels of Umgangssprache, mainly depending on the characteristics relative to the local dialect(s) on the one hand and the standard norms on the other.

Despite the fact that the notion of regional standard language is difficult to flesh out, at least for the present-day situation in our research area it is not problematic to indicate exactly which dialect features may and which may not occur in this highly diffuse variety. One of the questions that arise is what this distinction is related to. To the geographical spread of the features? After all, of the 21 dialect features studied in the elicited dialect use only the ones in the C-set, i.e. the ones with the widest areal distribution, can be categorized in this respect - as we did in the third part of § 6.4.2. Dialect features with a more limited geographical distribution, i.e. B- and A-type features, never occur in the regional standard language. Our analyses of spontaneous dialect use were confined to one phonological variable for each of the three sets of phenomena. Therefore we could not do justice to the factor '+/-occurrence in the regional standard language'. However, to the best of our knowledge, we cannot think of any C-type dialect feature of a phonological nature which does not occasionally occur in regional standard production. So it seems as though the distinction is also related to linguistic components. It should, however, be noted that we can only make statements about our research area - without having studied the issue systematically.

This is one of the many questions regarding this elusive variety, the importance of which will doubtlessly grow very fast in the near future.

- For the speech of his 37 informants, Schlobinski (1987: 149-51) calculated the implicational order in the use of six phonological features of the Berlin dialect.

A comparable approach may be feasible to answer the question whether there is an implicational order in the process of the levelling of different dialect features. In other words, is it possible to order dialect features on a scale of levelling? If it is, then in this respect dialect levelling may resemble decreolization (Bickerton 1975; but see § 1.2.4 above) and language acquisition (Van Hout et al. 1985).

The same question may be considered on the level of the individual dialect feature: are linguistic conditions implicationally ordered in the process of the levelling of a dialect feature? (See § 6.4.4.) Further analyses in this vein may deepen the insight into the linguistic nature of the process.

- In our analyses of the levelling of each single dialect feature, the linguistic dimensions were treated independently of one another (cf. § 6.2.2). Therefore it may seem as though we assume mutual independence of linguistic dimensions - in conformity with the position taken in Sankoff & Labov (1979). However, our choice was not so much a principled one, as it was motivated only by the explorative nature of our investigation and its wide scope in linguistic respects.

The adequacy of our approach in this connection cannot be determined, since our data do not allow studying the interaction effects of the linguistic dimensions involved

in the analyses of the use of each dialect feature - in contrast to the variable rule programme (Sankoff & Labov 1979: 205-206). Even the earlier versions of the programme already permitted testing the null hypothesis of mutual dependence. In the latter days of variation studies on the basis of variable rule methodology, the non-interaction assumption was abandoned.

For our two types of spontaneous Rimbürg dialect use it is not difficult to extend the data sets so as to enable empirical study of the interaction between linguistic constraints; it may be feasible even for parts of the elicited dialect use. On the extended and adapted data sets statistic techniques such as logistic regression analysis could also be applied to gain insight into the interplay between linguistic dimensions of variation. This will make it possible to establish the validity of the several linguistic dimensions which seem to be relevant to the use of each single LV - which may have interesting theoretical implications. Hence, what we should aim at, then, is a multi-variate analysis of linguistic dimensions.

The next step could then be the integration of the resulting insights into a method that enables more refined linguistic analyses of processes of dialect levelling.

12.3 Structural aspects - and especially the phonological model

In this section we will consider the linguistic part of the investigation. Most attention will be paid to the phonological model sketched in Ch. 2; a number of other structural aspects have already been touched upon in the previous section in connection with the evaluation of the second sociolinguistic hypothesis.

Although the research project as a whole was largely explorative, our approach to the phonological model differed from the way we dealt with the sociolinguistic model. Broadly speaking, the latter was tested much more systematically, and it consequently received more explicit attention.

The present section consists of two parts: after a discussion of the most important aspects of method and findings (§ 12.3.1), we will present some issues that might be taken up in further research (§ 12.3.2).

12.3.1 Discussion

Taking separate dialect features or LVs as the units of analysis is, of course, a reductionistic or even atomistic approach to dialect use and levelling. On the other hand, it has the advantage that it makes a certain degree of linguistic refinement possible.

In § 4.2.3 we discussed problems regarding the formal representation of our LVs. We settled upon a compromise, which consisted of a representation of a specific

dialect feature as a conversion rule or correspondence rule (Schatz 1986: 61), much as in Weinreich's (1954) diasystem. The general format is:

(3) dialect₁ A ~ dialect₂ B / X __ Y

In case a correspondence is not exceptionless, a diacritic may be used to indicate lexicalization. Formal representations, whether or not of the type in (3), enable one to capture as many relevant facts as possible in the most economical way. Furthermore, processes that level a specific dialect feature may have the structural effect that the correspondence between the dialect at issue and other varieties gradually becomes more constrained contextually, and therefore less predictable. The result of such a development can be discounted in the right-hand part of the formalization. If this type of development occurs in a phonological rule, the resulting increase in contextual specificity may eventually change it into a minor, morpholexical rule (cf. Van Coetsem & Buccini 1990: 179-81). When the dialect feature disappears altogether (the extreme distributional consequence of this general scenario), the result will be a maximal reduction of the structural distance from other varieties.

In the vast majority of LVs we studied, the use of the dialect feature was related to one or several small sets of mutually complementary linguistic conditions. Only in a minority of the cases in which an LV was found to be undergoing dialect levelling, this process turned out to occur in all environments. Underlying each single set of linguistic conditions in which the use of a given LV was studied is what we called a linguistic dimension. In a number of LVs, the levelling process is directional and gradual in one or more of these dimensions, in that it started earlier or proceeds faster in a specific condition than in the other one(s).

Our analyses of the elicited dialect use also revealed a few instances where the effects of the levelling process are significant only in certain linguistic conditions, not on the level of the overall use of the dialect features concerned. From these findings it appears that in a way the process of dialect levelling may be the mirror image of Kiparsky's modelling of the way in which quantitative variation related to 'functional' (e.g. phonotactic or paradigmatic) factors sneaks into linguistic competence:

"Functional conditions, then, enter the linguistic system in a grammaticalized form. At that point they begin to interact and conflict not only with each other, but with formal generality" (1972: 224)

Decreasing application of a dialect feature in certain linguistic conditions may lead to the narrowing of the rule to a limited set of environments. This process of the decrease of the scope of a rule is the opposite of simplification. As we said in the second part of § 6.4.3, such grammatical complication may impede the acquisition of the feature by next generations of dialect speakers. Moreover, at least in the case of R-deletion, apparent time levelling was found to be directional in several linguistic

dimensions at the same time. In the case of this rule, the process can therefore be said to be linguistically multi-dimensional.

Of the linguistic dimensions in our approach to variation and levelling in dialect use, much attention was paid to those connected to syllable structure. Certain constraints on syllable structure which are universal may be "determined to some degree by the biological limitations of man" (Yaeger-Dror 1987: 1591), pertaining to e.g. motor system and speech organ. In the present study, the phonological model of syllable structure played a role

1. in the selection of dialect features to be studied,
2. in the description, formalization and explanation of a number of dialect features, and
3. in our analyses of structural patterns in the process of levelling out of those dialect features.

Aspects 1. and 2. bear on the 'applicability' of the model. The third one concerns the predictive value of the model. Syllable structure served as the main signpost in our attempts to study dialect levelling as a special type of 'language change through ungoing, *historically directed* processes of variation', to paraphrase Cherubim & Objartel (quoted by Scheutz 1987: 1607 - my translation and underscoring, FH).

The *synchronic directionality* in the variation in the application of the word-final t-deletion rule was related, among other things, to the nature of both the left-hand and the right-hand environment. The claim that fricatives have a higher sonority value than stops would lead one to expect t-deletion to occur more often after a stop than after a fricative. All three types of data analyzed for this study systematically show the opposite pattern, however. The effect of the right-hand environment was only investigated in the two types of conversational dialect use; in both types of data two aspects of the right-hand environment turn out to have a very marked effect. First, the relative importance of the three conditions for use of the rule is invariably Consonant > Vowel > Pause. For a further investigation into the cases where there is no pause following, the application of the rule was related to the scalar feature sonority. The hypothesis that t-deletion is gradually dependent on the relative sonority of the following segment (the higher the sonority value of the next segment the less deletion and, inversely, the lower the sonority value of the next segment the more deletion) was clearly confirmed.

As to the 'historical' directionality: in a considerable number of cases the syllable as a phonological constituent was found to constrain the direction of dialect levelling, in that the process sets in or proceeds relatively easily in conditions where use of the dialect feature is at odds with the optimal syllable structure. A very clear example is the use of the rule of γ^1 -weakening. In Dutch dialects, the voiced realization of this fricative (and of obstruents generally) only occurs syllable-initially - if at all. If a liquid follows, the weakening of a $/\gamma^1/$, a phenomenon which variably occurs in the dialect under study, results in a heavily marked sequence, since the sonority distance between $/j/$ and a following liquid is too small. On the other hand, application of the rule

before a vowel (practically the only alternative class of segments which can be found to follow / γ^1 /) does not result in an ill-formed syllable. There is a sharp and highly significant decrease in the use of the rule both overall and before vowels, but the process of loss of the rule is much more advanced before liquids.

The loss of the γ^1 -weakening rule also appears to play a role in the directionality of the loss of the final fricative rather than plosive of the derivational suffix $-/l\gamma^1/$ (standard Dutch and most related Limburg dialects $-/lik/$ or $-/l\acute{e}k/$, orthographically *-lijk*). If the suffix is followed by an inflectional shwa, the decline in the use of the dialectal form of the suffix appears to be much steeper than if no shwa follows. Our explanation for this finding is that in shwa-bearing forms after resyllabification the segment at stake is in syllable-initial position - where final devoicing does not apply. Therefore, when the dialectal form of the suffix is used and a shwa is attached, the underlying / γ^1 / surfaces. Avoiding γ^1 -weakening is easy if there is no / γ^1 /, hence if the dialectal form of the suffix is not used.

Two other examples of linguistic directionality of the levelling process impelled by syllable structure pertain to the deletion of a postvocalic / r / before an alveolar obstruent. This occurs in a limited group of Limburg dialects, including the one which is central in the present study. The use of this rule, which has most probably been lexicalized, shows loss after short vowels, but not after long ones. This finding confirms the prediction that the phonological model would make: the rule will first disappear where it is 'needed' least, namely in heavy rather than in superheavy syllables. Further support for our interpretation of this dialect rule as originally motivated by syllable structure (§ 5.3.6) is the fact that the rule is being levelled out when a syllable boundary occurs between the / r / and the following coronal obstruent - as in (4b) (examples are given in standard Dutch orthography):

- (4a) kort 'short', a monosyllabic word
 (b) kort-er 'shorter', which is syllabified as [kor \$ ter]

Processes such as those optimizing syllable structure or linguistic forces in general cannot be expected to provide causal explanations for structural regularities in language variation or dialect levelling. In view of the multicausality of language change (§ 2.2), internal forces may provide at best probabilistic explanations. In this respect, our phonological model of syllable structure has proven to be satisfactory. From the model, claims were derived regarding tendencies in dialect levelling, and many of these claims were borne out by the data.

Conversely, we must be cautious as regards the importance of our findings for evaluating the phonological model. One reason why theoreticians might think that the outcomes from the present study cannot serve as a Popperian test of the phonological model is the predominantly sociolinguistic nature of our investigation and hence of the data. A connected reason is that, for generative theory, findings regarding processes of dialect levelling have another status than they do in connection with the sociolinguistic model. Insofar as they are in line with the predictions of the phonological model,

findings like the ones from our study will be considered as external, additional evidence. Similarly, Tropic's study of the acquisition of German by Spanish immigrant workers, and especially of regularities of the emerging interlanguage, produced findings which constitute external, "additional evidence to take formal account of the syllable as a relevant phonological domain" (1983-II: 233-34 - my translation, FH). Central to the theory are structural facts, usually regarding inventory or distribution - hence the designation 'internal' evidence.

According to Fasold (1986: 361-62), there are two main reasons why generative linguists do not consider language use an appropriate source of data for theory development: first, it is practically impossible to obtain a clear, unobfuscated insight into an individual's linguistic competence, and secondly, no single speaker speaks a well-defined, homogeneous language. In this study we never intended to deal with language as a mental organ, nor is the empirical basis of our findings confined to the performance of one single speaker. We are interested in the question whether, and if so, how dialect levelling is guided by linguistic forces. Nonlinear theories of syllable structure and lexicalist models provided a useful theoretical guideline.

The time may have come for theoretically interested sociolinguists to adopt a less humble attitude and make a serious attempt to "develop a sociolinguistic aspect of general linguistic theory" (DeCamp 1970: 167). A possible methodological approach to research in this vein is to isolate a relevant and coherent part of current theory, to translate it into operational hypotheses and to properly embed it into the analysis of language use. This strategy is in line with the way in which in Kuhn's view 'normal science' proceeds (cf. § 12.2.3 above). On the basis of a balanced evaluation of the findings, one should then be entitled to claim a room, if only a back room to begin with, in the big house of linguistic theory. There, one will be in a better position to convince the more orthodox inhabitants of the need to broaden their methodological windows to reckon with the findings from sociolinguistic research, and to attach more weight to external evidence in general. But the efforts must be two-sided, and cannot be limited to methodological issues alone: theoretical linguists should cooperate to elaborate grammatical models in which systematic linguistic variation occupies a regular place (cf. John Harris 1988: 228). Such models should at the same time be theoretically interesting and testable with both generative and sociolinguistic methods.

12.3.2 Issues for further research

In the preceding chapters, some questions for further research were already briefly mentioned. They concerned, among other things

- the conditioning right-hand context of the I-lowering rule: why do tautosyllabic /n/ and /ŋ/, but not /m/ trigger the rule? Did no endogenous words exist that ended in /ɪm \$/ when the rule was phonologized? Are other factors involved? (§ 5.3.3);
- implicit in the discussion of the findings for the final fricative segment in the dialect equivalent of the derivational suffix '-lijk' (§ 6.3.8) was the question: is the dialect

feature less susceptible to loss in case the lexeme to which it is attached differs formally from the standard equivalent? That is, is there cooccurrence with the lexical root? Compare in this respect Akere's (1982) finding that standard phonological variants are introduced first into cognate lexical items in the Ijebu dialect of Yoruba spoken in Nigeria.

From the multitude of possible issues for further research, we pick out three questions that are more relevant to the phonological model.

- As will be clear, the phonological model was not tested as exhaustively as the recorded speech material would have permitted. This holds especially for the spontaneous dialect use, the analyses of which were confined to the processes of γ^l -weakening, n-deletion and t-deletion. In the dialects at issue, all three LVs are postlexical rules. In general, postlexical rules are often variable, their application being related to both linguistic and extralinguistic factors. One of the linguistic dimensions involved in the analyses of n-deletion was the variable [\pm stress] on the level of the 'Abercrombian' foot (cf. § 8.5.2).

It may be rewarding to include the variable stress in additional analyses of the application of the rules for γ^l -weakening and t-deletion in the spontaneous speech. In connection with these two dialect features, the variable stress may be related to a characteristic of the word, namely the question whether or not the word is polysyllabic. In words of three or more syllables, however, stress is a multi-valued rather than a binary variable. Analyses would therefore have to be more sophisticated in this respect. The question could be considered if and how insights from metrical phonology could be integrated.

- In the nonlinear model of the syllable as a phonological constituent, sketched in Ch. 2, the sonority hierarchy

(5) Obstruents < Nasals < Liquids < Glides < Vowels

played a role, along with the general insight that a number of universal and language-specific aspects of syllable structure can be expressed in terms of the distance in sonority between adjacent segments. In the analyses of our data for the Rimbürg dialect, the sonority concept was mainly considered in connection with the variable rule for final t-deletion after obstruents. The findings regarding the effect of the following segment are in line with the predictions. The results of the analyses of the effect of the [\pm continuant] specification of the preceding obstruent do not confirm claims based on the more refined sonority scales advocated in a part of the literature (some of which was referred to in section 2.4 and § 6.4.4).

In more recent phonological thinking, particularly in theories of feature geometry, proposals have been made to replace the non-primitive, multi-valued, scalar feature sonority by configurations of values of the major class features vocoid, approximant

and sonorant. These three features are argued to be hierarchically ordered (Van der Hulst & Van Lit 1988; Wetzels 1989, among others).

It may be fruitful to consider the feasibility of implementing models of feature geometry in the study of processes of language change and dialect levelling. The findings may serve as a testing ground for competing models. We can go beyond a mere suggestion in this respect: the possibility may be considered of an algorithm which quantifies the relative distances between pairs of segments on the basis of nodes and hierarchical levels in feature organization.

- We studied only one phonological variable regarding vowel quality, namely I-lowering. As may be recalled from § 6.3.3, our data did not contain any indication that this (geographically limited) dialect feature would be in the process of being levelled out.

In general we have the impression that at present the dialects studied are not undergoing the levelling out of regular differences from other varieties in vowel quality and/or quantity. In cases of lexicalized vocalic variation no levelling seems to be taking place either. Differences in vocalism between the dialects of our research area and other varieties seem completely stable.

On the basis of the idea that vowel quality is a continuous variable and consonant quality is a discrete one, probably the opposite would have been predicted, namely that vocalic variation is levelled out more easily than variation between consonants. However, the distinction between continuous and discrete properties may be phonetically grounded, but phonologically it is less useful.

In a language such as Dutch, morphology is largely concatenative, and most processes involved in the derivation of surface forms affect the edges of morphemes. The *hypothesis* may be tested that in the dialects of such a language vowels are less subject to intra-systemic variation and levelling than in the dialects of a language which is different in this respect.

12.4 Methodological aspects

So far in this chapter we have already pointed out three important methodological issues: hypothesis testing, the distinction between Popperian inductivistic and Kuhnian 'normal' science and, finally, the difference in status of findings regarding dialect levelling with respect to the sociolinguistic model on the one hand and to phonological theory on the other.

The methods on which this investigation was based are marked by the fact that the project involved both exploration and testing. Roughly speaking, the phonological part of the study was largely explorative in nature, in the first place as far as the implementation of phonological insights into the methodology of the investigation was concerned. The testing involved the sociolinguistic model of dialect levelling developed in Ch. 1. In this final section we will not dwell on this issue. Instead, we will

consider a few more concrete methodological aspects. In § 12.4.1 we will discuss three topics: limitations of the investigation and their consequences to the external validity of our findings, the reasons why we did not compare the elicited data with the spontaneous ones, and, finally, some limitations of our approach to the notion of dialect levelling. The one and only question for further research to be raised in § 12.4.2 centres on the issue 'age versus time'.

12.4.1 Discussion

In determining *the generalizability of our findings*, it should be taken into account that the present research was restricted in four respects: dialect-geographically, with respect to the sex of the speakers and with respect to the dialect features studied. The fact that we confined our study to dialect speakers (a further limitation) may seem self-evident in view of the object of the investigation, but it is far from trivial as regards the comparability of the findings with those from similar studies. We will briefly consider the implications of each of these four points.

The former eastern Mine District was chosen as the research area for a number of reasons. One is the fact that the investigator was born and bred there, and is himself a native speaker of one of the three dialects originally spoken in Ubach over Worms. Rimbürg, where the fieldwork was carried out, is one of the three oldest parts of this community. Another important consideration was the fact that traditionally the degree of inter-systemic variation, i.e. the number of dialect features, is very high, so that there is something to be levelled out, both on the dialect - standard language axis and on the interdialectal dimension. A third important reason to conduct the investigation in this region was that for several decades it has constituted a natural laboratory of socio-demographic change. The extensive dialect contact which resulted was expected to function as a catalyst of processes of dialect levelling. Consequently, these processes may have set in earlier and progress at a higher rate than in other situations. But on the other hand, as we just said, the structural distance from other varieties is unusually large. These two factors may compensate each other.

When comparing our findings with those of sociolinguistic studies of related or identical dialect features, it should be kept in mind that our data were confined to the dialect use of dialect speakers. These two limitations do not hold for, for instance, Van Hout's (1989) investigation of language variation in the city of Nijmegen, or for Schlobinski's (1987) study of the Berlin vernacular. Consequently, our conclusions regarding processes of dialect levelling can be said to be more compelling than similar claims based on studies that were less specific in these respects. Moreover, in concentrating on dialect levelling, we limited ourselves to one of the two manifestations of dialect loss (see § 1.2.1 above). Apart from the reduction of structural variation, a related process is also taking place on the level of the entire community. This essentially social process, which we referred to as dialect shift (after Gal's 1979 'language shift'), consists of the gradual decrease of the relative number of dialect

speakers. It is closely connected with the decrease of dialect use to domains and situations of a non-public and non-instrumental nature (cf. §§ 3.3.3 and 12.2.1 above). A wide range of recent studies from all over western Europe brought to light a growing general tendency to avoid using the dialect to raise one's children. From this wider perspective, the prospects of geographical dialects look even bleaker.

Furthermore, the empirical basis of our study was limited to dialect use of male speakers. Most investigations in which the speakers' sex was varied show that generally women are more 'progressive', i.e. less inclined to speak the (deep) dialect. Incidental exceptions to this general tendency may occur in isolated rural areas, such as parts of Schwaben, a region in the southwest of Germany (cf. Ammon 1973). Since our research region is certainly not an isolated rural area, we deduce that a replication of our study with a highly similar sample of female Rimbürg dialect speakers would lead to the insight that women are ahead of men in the process of dialect levelling. More specifically, in connection with the three LVs to which we limited the analyses of the spontaneous dialect use of our 27 male speakers, we would expect women's speech to (a) show more advanced patterns of loss of the geographically limited rules of γ^1 -weakening and n-deletion, and (b) show less advanced apparent time increase of word-final t-deletion. From a dialect-geographical point of view, the latter rule is comparatively non-specific. On the other hand, it is one of the main characteristics of the emerging, as yet diffuse, non-standard Dutch spoken throughout the south and southwest of the Netherlands. In short, in the dialect use of women more variation may probably remain, especially on the standard - non-standard dimension. Sociologically and socio-psychologically such patterns may be very interesting, but they seem less central for deepening our insights into the linguistic side of the mechanism of dialect levelling.

Finally, the set of dialect features studied in the elicited speech material was relatively broad and representative in several respects. The selection (Ch. 8) of LVs studied in the two types of spontaneous dialect use resulted in the choice of three dialect features which constitute a proper subset of the twenty LVs in the elicited data. Although we proceeded very carefully in this final selection, this is a drastic reduction. It is therefore not easy to estimate how similar the patterns of levelling and accommodation would have been for other subsets of LVs.

The question may be raised *why the elicited data were not systematically compared to the spontaneous ones*. A possible reason to do so could have been the desire to determine the degree and direction of the covariation in the use of the same dialect features in several different style levels. However, as we argued in § 4.4.1 above, our three types of data cannot be considered to represent values on a single, unidimensional scale which ranges from, for instance, formal to informal styles. Their comparison by means of correlation coefficients or in another way would therefore not have provided any insight into stylistic covariation.

The elicited and the spontaneous data are not only stylistically incomparable; also in several other respects they differ so fundamentally that comparison would hardly be

meaningful. Most of these other respects are related to each other and/or to the above considerations regarding style. We mention them briefly:

- the elicitation was done by means of written stimuli (in a makeshift orthography, as the dialect is usually not written);
- the elicited data concern reactive behaviour, i.e. behaviour which occurred in immediate dependence of the investigation (De Bot & Van Hout 1983: 147) - in our spontaneous data this is much less the case;
- in the elicitation sessions, dialect was used in a vacuum, i.e. it was not directed towards an interlocutor, lacking any context of communicative intentions;
- the elicitation tasks fixed the speakers' attention on dialect use - the spontaneous, conversational data are much more natural in being communicative in nature;
- the elicitation sessions constituted test situations - the conversational data are drawn from interactional dialect use in much more ordinary situations;
- in applied linguistics, the type of elicitation tasks we used is known as a discrete-point test. According to Spolsky (1987: 934), tests of this type "elicit formal normative use". Our speakers' verbal behaviour provided reasons to assume that their dialect norm is constituted by their image of the way the dialect was spoken "in the old days" - as some put it. It is therefore conceivable that the elicited data reflect our speakers' oldest dialect competence more directly than do the conversational data. The latter are much more a reflection of ordinary dialect performance (cf. §§ 4.4, 4.4.1 and 6.3).

Moreover, there are important differences regarding our analyses of both types of speech material:

- linguistically, the study of the elicited dialect use was less 'deep' than that of the conversational data, as it involved fewer different linguistic dimensions;
- the only extralinguistic variables involved in the study of the elicited data were the speakers' age groups and the areal spread of the LVs. The spontaneous data were analysed also in relation with macro-social ('speaker background') variables and micro-social, situational factors.

Comparisons of the findings from the analyses of the conversational data with those from the elicited data would therefore necessarily be rather limited in both linguistic and extralinguistic respects.

A general drawback of *our operationalization of the notion of dialect levelling* is that instances which are not visible in apparent time will not be detected. This will happen if the dynamics in the use of an LV do not show a statistically significant age group effect - e.g. when the levelling proceeds too slowly, as is widely believed of syntactic change. In this latter connection, it is noteworthy that our elicited data clearly indicate loss of one of the two dialect features in the morphosyntactic sub-component studied (namely the several dialect equivalents of expletive *er*, which differ according to the syntactic position - cf. §§ 5.3.20, 6.3.20). Admittedly, this is not an instance of linguistic change *stricto sensu*, and it concerns morphosyntax rather than syntax, but it is relevant all the same.

The manifestations of dialect levelling in the elicited data were completely confined to loss (i.e. significant apparent time decrease in the use) of individual dialect features. In the second instance, our findings also appeared to contain indications for the introduction or further spread in dialect use of geographically less specific features (Ch. 7), especially with respect to final t-deletion in the spontaneous data (Chs. 9 and 10). In the end-result, a development of the latter type does not differ from the loss of a dialect feature, as both lead to the decrease of structural variation, internally as well as between dialects. Levelling of the differences between varieties reduces the structural uniqueness of individual dialects.

The fact that the operationalization of the notion of dialect levelling was not restricted to instances of the loss of dialect features means that the direction of the development relative to the dialect did not serve as a criterion. Statistical significance, on the other hand, was consistently applied as a criterion. In this respect, our approach may well have been too rigid, which may have caused Type II-like errors. In this connection, Type II errors consist of the rejection of the possibility that a certain LV is undergoing dialect levelling when in fact it is - though not at the .05 level of significance (cf. §§ 4.3.2 and 11.4 above). Not only possible instances of dialect loss which proceed relatively slowly (graphically characterized by a gentle downward slope) were thus presumably excluded, but also those instances of levelling which have almost terminated. In such cases, the apparent time method will reveal no more than the tip of the tail of the process. Some dialect features were excluded from this investigation beforehand, precisely because we suspected that the process of their loss had already advanced too far: only older speakers occasionally apply such features.

On the other hand, our statistical approach may have been too liberal, or even irresponsibly tolerant, as we did not systematically test the homogeneity of variance in the dialect use within the separate age groups in the cases where a significant and meaningful age group effect occurred. Thus we risked Type I-like errors.

12.4.2 An issue for further research

The synchronic approach to diachronic phenomena is paradoxical. Comparing the linguistic output of representatives of different age groups will always remain an uncertain way of detecting processes of structural change going on in real time.

In our study some measures were taken to reduce uncertainty:

- (a) the choice of the age group intervals: 20-30, 40-50 and 60-75. All speakers are adults; even for the youngest speakers in our sample, the process of linguistic socialization has certainly terminated;
- (b) the recording of three different types of dialect use per speaker;
- (c) the relatively large amounts of observations per speaker per LV per type of data.

In combination with the striking similarities between the tendencies manifest in the age group distributions of the application of the rules for γ^1 -weakening, n- and

t-deletion in the three types of data, these safeguards seem to warrant a certain generalizability.

Nevertheless, the possibility must not be overlooked that the patterns we interpret as apparent time reflections of processes of dialect levelling are actually stable age grading. However, the near linearity of the apparent time patterns in the use of the rules for t-deletion (in both types of conversational data) and γ^1 -weakening (in all types of data) are incongruous with what is perhaps the most common manifestation of age grading: the curvi-linear pattern, with a 'dip' brought about by markedly less use of non-prestigious features by members of the Middle age group. This sort of distribution is often explained by the fact that most people of this age group "are fully functioning members of the work force" (Schatz 1986: 108). In the findings for the three LVs analysed in all three data types, this pattern seemed to occur twice: in the elicited data regarding t-deletion, and in the in-group use of the n-deletion rule. But in the first case the age group effect was far from significant, and in the second one the probability was about .06, and so at any rate they did not satisfy an important requirement in our operationalization of the notion of dialect levelling. Moreover, all three LVs are phonological in nature and, according to Labov (1981: 181-82), "both internal and external evidence indicate that in general, adults stay with the sound system of their youth", so that one may presuppose "stable individual patterns for sound change". If this applies also in the case of the Rimbürg dialect, then the chance is small that the patterns we considered as indications of dialect levelling are in reality age grading.

But however solid their empirical basis, in the present context these are mainly theoretical considerations. In general, there are three possibilities to independently control the value of findings from apparent time studies. The first one can be described as real time study in retrospect. This method consists of "digging up data from the real past" (Labov 1981: 196), which can serve as a gauge or calibration for the 'time patterns' emerging from data for speakers of different age groups. For the time being, in most situations the only possible source for such data will be written material.⁷ A wide range of important differences between data from present-day studies and data gained from documents written in an older stage of a language concern the selection of the 'informants', the conditions of language production, data regarding the informants' backgrounds and language attitudes, and the nature and dating of the linguistic data (after Van Reenen 1987 MS: Appendix). For these and comparable reasons, the possibilities of this method are still severely limited. For the same reasons, Labov (1981: 179) refers to historical linguistics as "the art of making the best use of bad data."

Throughout this book, and especially in Ch. 5, we incidentally referred to attestations in older texts and in dialect descriptions for the existence in past stages of many of the twenty-one features studied here. Van Bree (1985a: 205-209, 1986) has

⁷ See Hinskens 1986b: 62-63 for a more refined typology of sources.

investigated the age vs. time issue using this method, by asking dialect speakers who had in the past filled out written questionnaires to do so again.

The second method is also a real-time one, but instead of taking a past stage as reference point, the comparison is made at some moment in the future. Optimally, similar data are gathered about one or several generations later. If such a future replication renders patterns which continue the tendencies detected in the apparent time data of the original investigation, those findings constitute what is probably the most reliable confirmation of one's inferences (cf. Labov 1981: 177). This technique has recently been applied to the English dialect of Norwich, and to Montreal French.⁸

The third possibility to independently assess the generalizability of the findings from apparent time studies is the dialect use of emigrants. The dialect of speakers (a) who after their emigration no longer had systematic contacts with speakers of the same or related varieties who did not move, and (b) whose competence did not deteriorate, may offer interesting possibilities for comparison. As a method of control, it therefore demands that the dialect use stabilized not later than immediately after emigration. Moosmüller (1987: 74) argues that the desire of emigrants to conserve their former identity is a sufficient reason to assume that their mother language is conservative. She applied this technique in her investigation of Vienna German. Her findings led her to conclude that, for the phonological variables she studied, the vernacular did not change substantially (192; 201). Daan (1971) adopted this approach to reconstruct the 19th century geography of a feature of a group of Dutch dialects.

Provided there are sufficient reasons to suppose the condition is met that the dialect of a speaker has stabilized immediately after emigration, it can be assumed that no external factors have affected the emigrants' dialect. However, it is not inconceivable that internally motivated change has taken place.

We consider it desirable to control the conclusions drawn from our findings. As the last method seems to be the least reliable of the three, and in view of the fact that the first one has rigorous practical limits, we plead for a future replication of the present study, preferably on the basis of the same or highly comparable elicitation tasks and at least in-group conversations.

The optimal approach is probably the combination of a trend study, i.e. taking a new sample of speakers of the same age groups, *ceteris paribus*, and a panel study (Labov 1981: 182-83). The latter technique will make it possible to draw up linguistic biographies of speakers who participated in our investigation; the same approach was applied by Van Bree (see above) with written data. An additional advantage of this technique is thus that it enables one to check a central claim underlying the apparent time method, namely the assumption that after adolescence the patterns in the language use of individual speakers no longer undergo fundamental changes ('linguistic stabilization' - § 4.1 above).

⁸ Trudgill 1988 and e.g. Thibault & Daveluy 1989.

Appendix

By way of illustration, all items that were used to investigate the linguistic variable 'Ach-laut allophony' from the battery of elicitation tasks (see § 4.4.1) are presented below. Apart from these items, we also present the header that contained a short description of the task itself, and one of the two examples which were provided to make clear what was intended by each single task. All of this is presented in exactly the same way as it was on the forms used by the informants.

In general, many items were used for more than one observation. In those cases it normally concerns the use of several linguistic variables. Apart from the items in the tasks, the numerals (for the microphone test) were also investigated for the use of a number of linguistic variables.

For the microphone test, the *cardinal numbers*
'8', '18' and '28'

Eerst stil lezen, dan voorlezen

- voorbeeld Dooch ins effe de duuer toow
- 1 Heea sjloog mich e blauw oog
 - 2 Hèt sjleet zich d'r kraag op teeage de kou
 - 3 Ze geet nit alling. Ich gon ooch
 - 4 Och, vreujer koeët me nog laache!
 - 5 Geet e mit d'r vlieger of mit d'r tsoch?
 - 6 Hèt hat 't an d'r maag en an de leeaver
 - 7 Ooch al is 't nog nit lang geli-je, doch weet ich 't nit mieë
 - 8 Dat fes doeëret dri-j daag an éé sjtuk

Vertalen en invullen

- | | | | |
|-----------|-----------|---|----------------------|
| voorbeeld | ZEVEN | Ze hant ... katse: | Ze hant zieëve katse |
| 10 | ZIJN | Ze ... nog ummer nit heem | |
| 12 | ZIN | Has te nog ... op e ieske? | |
| 13 | GAAT | Doe ... doch zieëker nooa heem?! | |
| 14 | VENSTER | De ... sjtong wagewiet oope | |
| 45 | MEEGEDAAN | An ing klöpparti-j han ich nog noeëts ... | |
| 47 | OPGEBELD | Hèt hat mich vur ing sjtond truuk nog ... | |
| 56 | DENKEN | Ich mot ooch uueveraal aa ... | |
| 57 | GEKOCHT | Has te dich ooch inne auto ... ? | |

Vertalen en invullen

voorbeeld	STAAT	Dooa ... inne noeëteboom: Dooa <i>sjeet</i> inne noeëteboom
87	DUIDELIJK	Wie e-n-et nog ins oet hauw jelaat, wooar 't mich ...
94	NATUURLIJK	Dat is ... ooch kwatsj
97	KORT	Dat hemme is 'm ooch nog te ...
111	HATELIJK	Deea Adolf is doch e ... keealke
126	BEHOORLIJK	Bis Roeëme is 't nog e ... sjtuk
133	GERAAPT	Ich han graad nog e voel pooasj-ei ...
156	DORST	Has doe ooch zoene ... ?
158	HEBBEN	... ouwer luu dooa nog d'r ooam vuuer?
159	GEWOONTE	Dat is ooch alling mar ing ...

Vertalen

voorbeeld	Dat is niet zo lastig:	Dat is nit ezoe lestig
183	Ik doe óók mee	

Verleden tijd

voorbeeld	Heea <i>moelt</i> nit veuël:	Heea <i>moelet</i> nit veuël
191	Heea <i>laach</i> winnig	Heea ... winnig
192	Zie <i>vrieëg</i> dich diene naam	Zie ... dich diene naam

Vertalen en in de juiste vorm invullen

voorbeeld	LENEN	Has doe die ge... kli- <i>jer</i> gewesje?: Has doe die <i>gelinde</i> kli- <i>jer</i> gewesje?
218	STREPEN	Heea droog ing ge... boks

Zinnetjes vertalen

voorbeeld	Het voetballen is <i>afgelopen</i>	't Foeballe is ...: 't Foeballe is <i>aafgelo</i> <i>pe</i> of 't Foeballe is <i>gedooa</i>
230	Ik doe <i>ook mee</i>	Ich don ...

Woordjes vertalen

voorbeeld	afscheren	aafsjeear
255	werkdag	...
263	pechdag	...

Vertalen en in de juiste vorm invullen

- voorbeeld STERK Hubert is een *sterke* kerel
 D'r Hoebeeat is inne ... keeal:
 D'r Hoebeeat is inne *sjterke* keeal
- 274 JONG Barbara is nog een *jonge* vrouw
 't Berb is nog ing ... vrouw

Meervoud

- voorbeeld Inne *sjtool* twieë *sjteul*
 296 Inne *daag* twieë ...

Antwoorden

- voorbeeld Hat ieër nog bieëre?
 (ging mieë) V'r hat es ging mieë
- 334 Has te nog kli-je ?
 (nog genug) Ich han ... nog genug

Vertalen

- voorbeeld -Daar loopt een soldaat
 Da geht ein Soldat
 Dooa lup inne soldaat
- 339 -Es sind noch viele Kartoffel da
 Er zijn nog veel aardappels
 nog veuël errepel

Vertalen en invullen

- voorbeeld KLAAR Nog mar effe, da zint v'r ...:
 Nog mar effe, da zint v'r *veeadig*
- 358 ACHT (8) 't Nuits begint um ... oere
- 360 GENOEG Vieër hant nog eier ...
- 368 OGEN Dat kengk hat groeëte ...
- 370 ZEGGEN Wits te noe nieks mieë te ... ?
- 376 LACHEN Vreuger koeët me nog ..
- 379 DAGDIENST Daagsj...
- 385 ZAGEN Vieëer ... d'r Hoebeeat graat nog in 'De Troef'
- 387 WERKDAG D'r vriedig is ooch inne ...
- 390 VOCHT Hèt houw die kni-j vol mit ...
- 394 AFDOEN Doe darfs dich die sjlieps ooch ...
- 397 KACHEL Ze sjtooake nog mit inne kooale...
- 399 AKEN; BOCHOLTZ
 Va ... bis ...is wieëniger wie 18 kilometer
- 400 ZAG ... doe mich lets nit op d'r maat?
- 404 DEED Wat ... doe dooa gistermurrege ezoe vrug ?

405	PECHDAG	Gister wooar vur mich inne ...
408	ZEGGEN	Wat wilt dat ... ?

References

- Abercrombie, D., 1967, *Elements of general phonetics*. Edinburgh (Edinburgh University Press; reprint 1980)
- Abu-Haidar, F., 1990, "Maintenance and shift in the Christian Arabic of Baghdad", *Zeitschrift für arabische Linguistik / Journal of Arabic linguistics / Journal de linguistique arabe*, 21, 47-62
- Adriaensen-Busch, M., s.a., *Taalassimilatie na verhuizing*. Unpublished M.A.-thesis KU Nijmegen
- Agard, F., 1971, "Language and dialect: some tentative postulates", *Linguistics* 65, 5-24
- Ahlqvist, A., (ed.), 1982, *Papers from the 5th International Conference on Historical Linguistics; Amsterdam studies in the theory and history of linguistic science IV*. Amsterdam (Benjamins)
- Aitchison, J., 1981, *Language change: progress or decay?* Douglas, Isle of Man (Fontana)
- 1988, review article of P. Trudgill, 1986, *Dialects in contact*, Oxford (Blackwell), *Linguistics* 26, 1, 157-58
- Akere, F., 1982, "Social motivation for ongoing sound change in a Yoruba dialect", *JOLAN* 1, 1-33
- Allen, H., 1986, "Sex-linked variation in the responses of dialect informants. Part III: grammar", *Journal of English linguistics* 19, 2, 149-76
- Altmann, G. & R. Grotjahn, 1987, "Linguistische Messverfahren", in: U. Ammon et al. (eds), zweiter Halbband, 1026-39
- & C. Naumann, 1983, "Statistische Datendarstellung", in: W. Besch et al. (eds), erster Halbband, 654-66
- Ammon, U., 1973, *Dialekt und Einheitssprache in ihrer sozialen Verflechtung; eine empirische Untersuchung zu einem vernachlässigten Aspekt von Sprache und sozialer Ungleichheit*. Weinheim etc. (Beltz)
- , N. Dittmar & K. Mattheier (eds), 1987, *Sociolinguistics / Soziolinguistik. An international handbook of the science of language and society / Ein internationales Handbuch zur Wissenschaft von Sprache und Gesellschaft*. Berlin etc. (De Gruyter)
- Andersen, H., 1973, "Abductive and deductive change", *Language* 49, 4, 765-93
- Anderson, J., 1973, *Structural aspects of language change*. Harlow (Longman)
- ANS = Geerts, G., W. Haeseryn, J. de Rooij & M. Van den Toorn, 1984, *Algemene Nederlandse spraakkunst*. Groningen (Wolters-Noordhoff)
- Aubin, H., Th. Frings & J. Müller, 1926, *Kulturströmungen und Kulturprovinzen in den Rheinlanden. Geschichte, Sprache, Volkskunde*. Bonn (Röhrscheid)
- Bach, A., 1934, *Deutsche Mundartforschung. Ihre Wege, Ergebnisse und Aufgaben. Eine Einführung*. Heidelberg (Winter), 1st edition; 2nd edition 1950
- Backus, F., 1988, "De gesloten wereld van de mijnen; liquidatie van een zeventig jaar oude monocultuur geanalyseerd", *NRC Handelsblad*, November 9
- Bailey, Ch.-J., 1973, *Variation and linguistic theory*. Washington (Center for applied linguistics)
- Bakkes, P., 1967, "Verhollandsing van klanken en vormen in het Middenlimburgs uit de streek tussen Roermond en Echt", *Taal en tongval*, XIX, 153-60
- Bavin, E., 1988, review article of A. Schmidt, 1985, *Young people's Dyirbal. An example of language death from Australia*, Cambridge etc. (Cambridge University Press), *Language in society* 17, 3, 440-45
- Bell, A., 1984, "Language style as audience design", *Language in society* 13, 2, 145-204
- Bennis, H., 1986, *Gaps and dummies*. Ph.D.-diss. K.H. Tilburg.
- & A. Van Kemenade (eds), 1989, *Linguistics in the Netherlands 1989*. Dordrecht/Providence (Foris)
- Berendsen, E., E. Visch & W. Zonneveld, 1984, *Generatieve fonologie en de linkerkant van de grammatica*. Leiden (Nijhoff)
- Berg, B. Van den, 1974, *Foniek van het Nederlands*. Den Haag (Van Goor). 7th edition

- Berg, J. Van den, J. Brouwer, J. Feijen, P. Hermans & J. Van de Wouw, 1983, *Weertlands woordenboek*. Weert (Veldeke)
- Berg, R. Van den, 1988, *The perception of voicing in Dutch two-obstruent clusters*. Ph.D.-diss. KU Nijmegen
- Besch, W., 1981, "Einige Probleme empirischer Sprachforschung. Dargestellt am Beispiel des Erp-Projektes", in: W. Besch et al., 238-60
- , J. Hufschmidt, A. Kall-Holland, E. Klein & K. Mattheier, 1981, *Sprachverhalten in ländlichen Gemeinden; Ansätze zur Theorie und Methode. Forschungsbericht Erp-Projekt Band I*. Berlin (Schmidt)
- , U. Knoop, W. Putschke & H. Wiegand (eds), 1983, *Dialektologie. Ein Handbuch zur deutschen und allgemeinen Dialektforschung*. Berlin etc. (De Gruyter)
- Bickerton, D., 1975, *Dynamics of a creole system*. London (Cambridge University Press)
- Bloomfield, L., 1933, *Language*. London (Unwin - 9th reprint 1969)
- Booi, G., 1977, "Vragen bij een Leids onderzoek", *Forum der Letteren* 18, 1, 15-22
- 1981, *Generatieve fonologie van het Nederlands*. Utrecht etc. (Spectrum)
- 1985, "Lexical phonology, final devoicing and subject pronouns in Dutch", in: H. Bennis & F. Beukema (eds), *Linguistics in the Netherlands 1985*. Dordrecht (Foris), 21-26.
- 1988, "On the relation between Prosodic Phonology and Lexical Phonology", in: P.M. Bertinetto & M. Loporcaro (eds), *Certamen Phonologicum*. Torino (Rosenberg & Sellier), 63-75.
- 1989, review article of R. Hogg & C. McCully, 1987, *Metrical phonology. A coursebook*. Cambridge (Cambridge University Press), *Studies in language*, 13, 1, 221-26
- & J. Rubach, 1987, "Postcyclic versus postlexical rules in Lexical Phonology", *Linguistic inquiry* 18, 1, 1-44
- Bot, K. De, 1985, "Onderzoek naar taalverandering en het gebruik van de 'apparent-time'-methode", *Forum der Letteren*, 26, 33-40
- & R. Van Hout, 1983, "Enkele methodologische kernpunten in taalkundig onderzoek", in: K. De Bot & R. Van Hout (eds), *Taal, taalgedrag en methodologie = Gramma* 7, 2/3, 143-51
- Botha, R., 1978, *Inleiding tot generatief taalonderzoek; een methodologisch handboek*. Dutch edition by G. De Haan. Groningen (Wolters-Noordhoff)
- Boves, T. & U. Knops, 1989, "Speech accommodation theory: geschiedenis, kenmerken en evaluatie", *Interdisciplinair tijdschrift voor taal- en tekstwetenschap* 9, 2, 77-95
- , R. Van Hout, F. Vieregge & U. Knops, 1990, "Een formalisering van de concepten convergentie en divergentie uit de taalaccommodatietheorie", *Gramma*, 14, 1, 65-80
- Bree, C. Van, 1977, *Leerboek voor de historische grammatica van het Nederlands. Klank- en vormleer; met een beknopte grammatica van het Gotisch*. Groningen (Wolters-Noordhoff)
- 1985a, "Onderzoek naar de invloed van de standaardtaal op het dialect; enige methodische overwegingen", in: J. Taeldeman & H. Dewulf (eds), 203-14
- 1985b, "Structuurverlies en structuurbehoud in het dialect van Haaksbergen en Enschede. Een onderzoek naar verschillen in resistentie", *Leuvense Bijdragen* 74, 1-35
- 1986, "De betrouwbaarheid van de apparent time-methode", in: J. Creten et al. (eds), 27-37
- Breij, B., 1981, *De mijnen gingen open, de mijnen gingen dicht*. Baarn/Amsterdam (Anthos/Kosmos)
- Breuer, H., 1974, *Mijnsluiting; personeelsbeleid in het kader van de sluiting van het steenkolenmijnbedrijf 'Laura-Julia' in een tijd van regionale herindustrialisatie*. Unpublished thesis, Kath. Soc. Academie Sittard
- Bullock, A. & O. Stallybrass (eds), 1982, *The Fontana dictionary of modern thought*. London (Fontana/Collins; 5th impression)
- Bussmann, H., 1983, *Lexikon der Sprachwissenschaft*. Stuttgart (Kröner)
- Bynon, Th., 1983, *Historical linguistics*. Cambridge etc. (Cambridge University Press)
- Carlock, E. & W. Wölck, 1981, "A method for isolating diagnostic linguistic variables: the Buffalo ethnolects experiment", in: D. Sankoff, & H. Cedergren (eds), 17-24

- CBS 1988 = Centraal Bureau voor de Statistiek, *Statistisch zakboek 1988*. 's-Gravenhage (Staatsuitgeverij, CBS-publikaties)
- Chambers, J. & P. Trudgill, 1980, *Dialectology*. Cambridge etc. (Cambridge University Press)
- Chomsky, N., & M. Halle, 1968, *The sound pattern of English*. New York (Harper and Row)
- Clements, G., 1985, "The geometry of phonological features", *Phonology Yearbook* 2, 225-52
- 1987, "The role of the sonority cycle in core syllabification", MS. A slightly revised version appeared in: J. Kingston & M. Beckman (eds), 1990, *Papers in laboratory phonology I. Between the grammar and physics of speech*. Cambridge etc. (Cambridge University Press), 283-333
- & S. Keyser, 1983, *CV Phonology; a generative theory of the syllable*. Cambridge Mass. etc. (The MIT Press)
- Clyne, M., 1984, *Language and society in the German-speaking countries*. Cambridge (Cambridge University Press)
- Coetsem, F. Van, & A. Buccini, 1990, "Variation and the reconditioning of phonological rules", *Lingua* 81, 2/3, 169-220
- Cohen, A., C. Ebeling, K. Fokkema & A. Van Holk, 1978, *Fonologie van het Nederlands en het Fries; inleiding tot de moderne klankleer*. Den Haag (Nijhoff), 2nd edition
- Collins, B. & I. Mees, 1981, *The sounds of English and Dutch*. The Hague etc. (Leiden University Press)
- Collon, P., s.a., "Brockkulzer dialect vuur dur ietste Weltkrieg". Four manuscript pages containing unpublished childhood memories concerning aspects of the local life in the first decades of the twentieth century, written in the Rimburch dialect - probably third quarter 20th century. Appeared as a part of Hinskens 1992
- Comrie, B., 1981, *Language universals and linguistic typology*. Oxford (Blackwell; "reprinted with corrections and additions 1983")
- Coseriu, E., 1958, *Synchronie, Diachronie und Geschichte; das Problem des Sprachwandels*. German transl. by H. Sohr. München 1974 (Fink Verlag)
- Creten, J., G. Geerts & K. Jaspaert (eds), 1986, *Werk-in-uitvoering; momentopname van de sociolinguïstiek in België en Nederland*. Leuven / Amersfoort (Acco)
- Cucchiari, C. & F. Hinskens, 1988, "De plaats van het dialect in het Land van Axel", *Mededelingen van de Nijmeegse Centrale voor Dialect- en Naamkunde*, XX, 1-31
- Cutler, A., 1986, "Phonological structure in speech recognition", *Phonology Yearbook* 3, 161-78
- Daan, J., 1971, "Verschuiven van isoglossen", *Taal en tongval*, 23, 77-79
- Dale, Van = G. Geerts, H. Heestermans & C. Kruyskamp (eds), 1984, *Van Dale groot woordenboek der Nederlandse taal*. 11th, revised edition. Utrecht etc. (Van Dale Lexicografie)
- DC 1932-1940 = Centrale Commissie voor onderzoek van het Nederlandse volkseigen, ingesteld door de Koninklijke Nederlandse Akademie van Wetenschappen, afdeling Dialectologie (Centraal Bureau voor Nederlandse en Friese dialecten - commonly referred to as "Dialectencommissie"): written dialect questionnaires; the only ones filled in for Rimburch are nrs 2 - 9
- DeCamp, D., 1970, "Is a sociolinguistic theory possible?" and subsequent "Discussion", in: J. Alatis (ed.), *Report on the twentieth annual round table meeting on linguistics and language studies*. Washington D.C. (Georgetown University Press), 157-73
- Dewulf, H., J. Van Keymeulen & F. Verstraete, 1981, "Westvlaamse expansie en standaardisering: een sociolinguïstische benadering", *Taal en tongval* 33, 52-61
- Dillard, J., 1972, *Black English: its history and usage in the United States*. New York (Random House)
- Dingeldein, H., 1983, "Spezielle Pluralbildungen in den deutschen Dialekten", in: Besch et al. (eds), *zweiter Halbband*, 1196-1202
- Dressler, W., 1972, "Methodisches zu Allegro-Regeln" and "Diskussion", in: Dressler, W. & F. Mares (eds) *Phonologica 1972; Akten der zweiten Internationalen Phonologie-Tagung Wien, 5.-8. September 1972*. München & Salzburg 1975, 219-34
- 1986, "Explanation in natural morphology, illustrated with comparative and agent-noun formation", *Linguistics* 24, 519-48

- Dunaj, B., 1989, "Research into the social stratification of Polish in Cracow: methods and results", *International journal of the sociology of language* 78, 29-42
- Eckert, P., 1985, "Grammatical constraints in phonological change: unstressed *a in Southern France", *Orbis* XXXI: 1-2, 1982 [1985], 169-89
- Emenau, M., 1956, "India as a linguistic area", *Language* 32, I, 3-16
- Ewen, C. & H. Van der Hulst, 1987, "Single-valued features and the distinction between [-F] and [F]", in: F. Beukema & P. Coopmans (eds), *Linguistics in the Netherlands 1987*. Dordrecht etc. (Foris), 51-60
- Fasold, R., 1986, "Linguistic analysis of the three kinds", in: D. Sankoff (ed.), 1986, *Diversity and diachrony*. Amsterdam etc. (Benjamins), 361-66
- & D. Schiffrin (eds), 1989, *Language variation and change*. Amsterdam etc. (Benjamins)
- Ferguson, Ch., 1959, "Diglossia", *Word* 15, 325-40
- Ferguson, G., 1981, *Statistical analysis in psychology and education*. Auckland etc. (McGraw-Hill), international student edition; 5th edition
- Fishman, J., 1965, "Who speaks what language to whom and when?" *La linguistique* 11, 67-88
- Foley, J., 1970, "Phonological distinctive features", *Folia linguistica* 4, 87-92
- Freed, B. 1982, "Language loss: current thoughts and future directions", in: R. Lambert & B. Freed (eds.), 1-5
- Gal, S., 1978a, "Peasant men can't get wives: language change and sex roles in a bilingual community", *Language in society* 7, 1-16
- 1978b, "Variation and change in patterns of speaking: language shift in Austria", in: D. Sankoff (ed.), *Linguistic variation; models and methods*. New York (Academic Press), 227-38
- 1979, *Language shift; social determinants of linguistic change in bilingual Austria*. New York etc. (Academic Press)
- Garcia, E., 1985, "Shifting variation", *Lingua* 67, 2-3, 189-224
- Geerts, G., 1986, "Taalcontactonderzoek sinds Weinreich (1953). Een probleemtheoretisch overzicht", *Gramma* 10, 1, 1-15
- Gerritsen, M. & F. Jansen, 1980, "The interplay between diachronic linguistics and dialectology: some refinements of Trudgill's formula", in: J. Maher, A. Bomhard & E. Koerner (eds), *Papers from the 3rd International conference on historical linguistics*. Amsterdam (Benjamins), 11-37
- Giesbers, H., 1989, *Code-switching tussen dialect en standaardtaal*. Ph.D.-diss. KU Nijmegen / Amsterdam (Publikaties van het P.J. Meertensinstituut)
- Gilbers, D., 1989, "How to digitalize phonology", in: H. Bennis & A. Van Kemenade (eds), 41-50
- Ginneken, J. Van, 1913, *Handboek der Nederlandsche taal. Deel I. De sociologische structuur der Nederlandsche taal I*. Nijmegen (Malmberg)
- 1916, "De schoondochter in de taalgeschiedenis", *De nieuwe taalgids* 10, 1-18
- 1917, *De roman van een kleuter*. Nijmegen (Malmberg)
- Givón, T. 1979, "Prolegomena to any sane creology", in: I. Hancock (ed.) *Readings in creole studies*. Ghent (Story-Scientia), 3-35
- Goeman, A., 1976, *Aspecten van de vervoeging van het presens*. Amsterdam (Bijdragen en Mededelingen der Dialectencommissie van de KNAW, XLIX)
- 1983, "Variatie in taal en algemene taalwetenschap", in: J. Stroop (ed.), 51-58
- & P. Van Reenen, 1985, *Word-final t-deletion in Dutch dialects: the roles of conceptual prominence, articulatory complexity, paradigmatic properties, token frequency and geographical distribution*. Amsterdam (Vrije Univ. Working papers in linguistics, 16)
- Goldsmith, J., 1990, *Autosegmental and metrical phonology*. Oxford (Blackwell)
- Goossens, H., 1981, *Ubach over Worms, van Overworms kwartier tot gemeente Landgraaf*. Ubach over Worms (privately published)
- Goossens, J., 1965, "Die Gliederung des Südniederfränkischen", *Rheinische Vierteljahresblätter* 30, 79-94

- 1970, "Niederländische Mundarten vom Deutschen aus gesehen", *Niederdeutsches Wort* Band 10, 61-80
- 1986, "Über die Einseitigkeit des punktuellen Standpunkts in der korrelativen Soziolinguistik und die Vernachlässigung der Variation in der Dialektologie" in: P. von Polenz, J. Erben & J. Goossens (eds), *Akten des VII. Internationalen Germanisten-Kongresses, Göttingen 1985*. Band 4. Tübingen (Niemeyer), 257-62
- & J. Verheyden, 1983, "De preteritum-vormen van de zwakke werkwoorden in het zuiden van het Nederlandse taalgebied", in: J. Stroop (ed.), 173-84
- Goossens, P., 1967, *De structuur van het werkwoord in het Limburgs*. Unpublished M.A.-thesis, KU Nijmegen
- Grassi, C., 1987, "Dialektsoziologie", in: U. Ammon et al. (eds), *erster Halbband*, 679-90
- Groot, A. De, 1963, *Inleiding tot de algemene taalwetenschap; tevens inleiding tot de grammatica van het hedendaagse Nederlands*. Groningen (Wolters-Noordhoff), unrevised 3rd edition, 1968
- Grosse, R., 1964, "Entwicklungstendenzen in der deutschen Sprache der Gegenwart", in: R. Grosse 1989, 341-46
- 1965, "Isoglossen und Isophonen. Zur Problematik der phonetischen, phonologischen und phonometrischen Grenzlinien", in: R. Grosse 1989, 49-71
- 1970, "Probleme der Phonologie und Morphologie", in: R. Grosse, 1989, 373-81
- 1982, "Zur Rolle der Stadt in der deutschen Sprachgeschichte des Spätmittelalters", in: R. Grosse, 1989, 307-21
- 1989, *Beiträge zur Sprachgeschichte und Soziolinguistik (1953-1983)*. Mit einem Vorword herausgegeben von Ulla Fix und Horst Weber, Leipzig (Zentralantiquariat der DDR)
- & A. Neubert, 1982, "Sprachwandel in soziolinguistischer Sicht. Thesen", in: R. Grosse, 1989, 178-87
- Gumperz, J. & R. Wilson, 1971, "Convergence and creolization; a case from the Indo-Aryan/Dravidian border in India", in: D. Hymes (ed.), *Pidginization and creolization of languages; proceedings of a conference held at the university of West Indies, Mona, Jamaica, April 1968*. London (Cambridge University Press), 151-67
- Gussenhoven, C., 1980, review article of M. Trommelen & W. Zonneveld, 1979, *Inleiding in de generatieve fonologie*, Muiderberg (Coutinho), *Gramma* 4, 2, 174-83
- Gussmann, E., 1988, review article of K. Mohanan 1986, *The theory of lexical phonology*, Dordrecht (Reidel), *Journal of linguistics* 24, 1, 232-39
- Guy, G., 1991, "Explanation in variable phonology: an exponential model of morphological constraints". *Language variation and change* 3, 1, 1-22
- Haan, G. De, 1988, *Wetenschap en ideologie in de Friese taalkunde*. Inaugural lecture, Fryske Akademie / RU Utrecht
- Hagen, A., 1981, *Standaardtaal en dialectsprekende kinderen; een studie over monitoring van taalgebruik*. Ph.D.-diss. KU Nijmegen / Muiderberg (Coutinho)
- (ed.), 1986, *Dialectverlies - dialectbehoud = Taal en tongval* 38, 3/4.
- & H. Münstermann, 1985, "Functieverlies en structuurverlies bij minderheidstalen en dialecten", in: *Handelingen van het acht en dertigste Nederlands filologencongres, gehouden te Nijmegen, 16-17 april 1984*. Amsterdam etc. (APA-Holland Universiteits Pers), 63-84
- Hall, R., 1980, "Language, dialect and 'Regional Italian'", in: R. Williamson & J. van Eerde (eds), *Language maintenance and language shift = International journal of the sociology of language* 25, 95-106
- Hall, T., 1989, "Lexical phonology and the distribution of German [ç] and [x]", *Phonology* 6, 1-17
- 1992, *Syllable structure and syllable-related processes in German*. Tübingen (Niemeyer)
- Halle, M. & G. Clements, 1983, *Problem book in phonology: a workbook for introductory courses in linguistics and in modern phonology*. Cambridge Mass. etc. (Bradford / The MIT Press)
- Hamans, C., 1985, "Achteruitgang van het dialect?", in: J. Taeldeman & H. Dewulf (eds), 115-35
- Hanssen, H., 1912, *Die Rimbürg. Geschichte der Burg, der ehemaligen Herrschaft bzw. freien Reichsherrschaft, und der Gemeinde Rimbürg*. (Aachener Verlags- und Druckerei-Gesellschaft)

- Harris, John, 1988, review article of P. Trudgill, 1986, *Dialects in contact*, Oxford (Blackwell), *Journal of linguistics* 24, 1, 227-32
- 1989, "Towards a lexical analysis of sound change in progress", *Journal of linguistics* 25, 1, 35-56
- Harris, M., 1982, "On explaining language change", in: A. Ahlqvist (ed.), 1-14
- Hartweg, F., 1983, "Typen lexikalischer Entwicklungen. Eine Fallstudie am Beispiel des elsässischen Dialekts", in: Besch et al. (eds), zweiter Halbband, 1325-31
- Hasselberg, J., 1983, "Die soziolinguistische Problematik der Schichtzuordnung von Dialektsprechern", in: W. Besch et al. (eds), zweiter Halbband, 1468-74
- Haugen, E., 1950, "The linguistic analysis of borrowing", *Language* 26, II, 210-32
- Hermans, B., 1984, "Het Limburgs en het Litouws als metrisch gebonden toontalen", *Spektator* 14, 1, 48-70
- Herrgen, J., 1986, *Koronalisierung und Hyperkorrektur; das palatale Allophon des /CH/-Phonems und seine Variation im Westmitteldeutschen*. Wiesbaden (Steiner)
- Herskovits, M., 1955, *Cultural anthropology*. New York (Knopf)
- Hinskens, F. 1983, *Neutraliteitsstrategieën; een verkennende studie*. Unpublished M.A.-thesis, Univ. van Amsterdam
- 1985a, "Neutraliteitsstrategieën als faktor in de processen van 'dialect levelling' en verschuivingen in het kodegebruik", in: J. Taeldeman & H. Dewulf (eds), 136-48
- 1985b, "Visies op variatie en verandering in verschillende lecten", *Gramma* 9, 2, 115-40
- 1985c, "Versjtrunkelt diene tuuën wat e keeäneske oop e huuëvelke drait? Enkele structurele en functionele aspecten van het 'Groenstraat-Bargoens'", *Mededelingen van de Nijmeegse Centrale voor Dialect- en Naamkunde XIX*, 1983-1984, 17-56
- 1986a, "Primaire en secundaire dialectkenmerken; een onderzoek naar de bruikbaarheid van een vergeten (?) onderscheid", in: J. Creten et al. (eds), 135-58
- 1986b, "The selection of linguistic variables in empirical research on variation and change in dialects", in: B. Weltens et al. (eds), 53-74
- 1986c, "Onderzoek van dialectverlies in de lexicale component; enkele kanttekeningen" in: A. Hagen (ed.), 185-97
- 1988, "Enkele gedachten over de notie 'structurele afstand'", *Mededelingen van de Nijmeegse Centrale voor Dialect- en Naamkunde XX*, 89-100
- 1989, "Dialectnivellering en syntaxis - Ubach over Worms", to appear in: C. Braecke, P. Van der Craen, (eds), *Handelingen van de Zevende Sociolinguïstendagen, Brussel mei 1988*.
- 1993, "Dialect als lingua franca? Dialectgebruik in het algemeen en bij grensoverschrijdend contact in het Nederrijnland en Twente", in: L. Kremer (ed.), *Diglossiestudien: Dialekt und Standardsprachen im niederländisch-deutschen Grenzland*. Vreden (Landeskundliches Institut Westmünsterland), 209-45
- 1995a, "Dialectnivellering in Limburg; het suffix -lijk in Rimburch", *Gramma/TTT* 4, 1, 1-23
- 1995b, "What can sociolinguistics offer phonological theory - and vice versa?". MS
- & R. Van Hout, 1994, "Testing theoretical phonological aspects of word-final (t) deletion", in: W. Viereck (ed.), *Verhandlungen des Internationalen Dialektologenkongresses Bamberg 1990*. Band 3, Stuttgart (Steiner), 279-310
- & P. Muysken, 1986, "Formele en functionele benaderingen van dialectale variatie: de flexie van het adjectief in het dialect van Ubach over Worms", in: C. Hoppenbrouwers, I. Schuurman, R. Van Zonneveld & F. Zwarts (ed.), *Syntaxis en lexicon; veertien artikelen bij gelegenheid van het emeritaat van Albert Sassen*. Dordrecht/Providence (Foris), 13-24
- Hochberg, J., 1986, "Functional compensation for /s/ deletion in Puerto Rican Spanish", *Language* 62, 3, 609-21
- Holmquist, J., 1988, *Language loyalty and linguistic variation. A study in Spanish Cantabria*. Dordrecht/Providence (Foris)
- Hooper, J., 1976, *An introduction to natural generative phonology*. New York etc. (Academic Press)
- Hoppenbrouwers, C., 1983a, "Het genus in een Brabants regiolect", *TABU*, 13, 1, 1-25

- 1983b, "Verandering in ongelijksoortige lecten", *Gramma* 7, 2-3, 249-68
- & G. Hoppenbrouwers, 1988, "De featurefrequentiemethode en de classificatie van Nederlandse dialecten", *Tabu*, 18, 2, 51-92
- Houben, J., 1905, *Het dialect van de stad Maastricht*. Ph.D.-diss. Univ. van Amsterdam
- Hout, R. Van, 1980, "Dialectgeografie: enkele methodologische beschouwingen", *Mededelingen van de Nijmeegse Centrale voor Dialect- en Naamkunde* XVII, 1979-80, 7-45
- 1987, "Analysing language variation by multiple regression: the case of (t) deletion in a Dutch dialect", in: M. Schouten & P. Van Reenen (eds), 1989, 5-17
- 1989, *De structuur van taalvariatie. Een sociolinguïstisch onderzoek naar het stadsdialect van Nijmegen*. Ph.D.-diss. KU Nijmegen
- , K. Jaspaert & A. Vermeer, 1985, "Implicatiele analyse en taalverwerving", *Interdisciplinair tijdschrift voor taal- en tekstwetenschap* 5, 3, 265-84
- & H. Münstermann, 1981, "Linguïstische afstand, dialect en attitude", *Gramma* 5, 2, 101-24
- & H. Münstermann, 1988, "The multidimensionality of domain configurations", *International journal of the sociology of language* 74, 107-24
- & W. Scheepers, 1982, "Een paradox in het sociolinguïstisch onderzoek: autochtonie vs. migratie", *Mededelingen van de Nijmeegse Centrale voor Dialect- en Naamkunde* XVIII, 1981-82, 33-73
- Hudson, R., 1980, *Sociolinguistics*. Cambridge etc. (Cambridge University Press)
- Hulst, H. Van der, 1984, *Syllable structure and stress in Dutch*. Dordrecht/ Cinnaminson (Foris)
- & J. Van Lit, 1987, "Lettergreepstructuur", *GLOT* 10, 2, 165-95
- & N. Smith, 1985, "The framework of nonlinear generative phonology", in: H. Van der Hulst & N. Smith (eds), 3-55
- & N. Smith (eds), 1985, *Advances in nonlinear phonology*. Dordrecht/Cinnaminson (Foris)
- & N. Smith, 1988, "The variety of pitch accent systems: introduction", in: H. Van der Hulst & N. Smith (eds), *Autosegmental studies on pitch accent*. Dordrecht/Providence (Foris), ix-xxiv
- Hundley, J., 1986, "The effect of two phonological processes on syllable structure in Peruvian Spanish", *Hispania* 69, 3, 665-68
- Hyman, L., 1985, *A theory of phonological weight*. Dordrecht/Cinnaminson (Foris)
- Jakobson, R., 1931, "Über die phonologischen Sprachbünde", in: *Selected writings. I Phonological studies*. Den Haag (Mouton), 137-43
- 1960, "Linguistique et poétique", in: *Roman Jakobson. Essais de linguistique générale*. I. Traduit de l'Anglais et préf. par N. Ruwet. Paris, 1963-1973 (Editions de Minuit), 211-48
- Janda, R., 1982, "Diachronic fact vs. synchronic fiction: historical-linguistic evidence against assuming underlying grammatical uniformity for contemporary dialects of the same language", in: A. Ahlqvist (ed.), 149-62
- Jaspaert, K., 1986, *Statuut en structuur van standaardtalig Vlaanderen*. Ph.D.-diss. KU Leuven
- , S. Kroon & R. Van Hout, 1986, "Points of reference in first-language loss research", in B. Weltens, et al. (eds), 37-49
- Jones, E. & J. Eyles, 1977, *An introduction to social geography*. Oxford etc. (Oxford University Press)
- Jong, D. De, 1988, *Sociolinguistic aspects of French liaison*. Ph.D.-diss. Vrije Univ. Amsterdam
- Jong, E. De (ed.), 1979, *Spreektaal; woordfrequenties in gesproken Nederlands*. Utrecht (Bohn, Scheltema & Holkema)
- Jongenburger, W. & V. Van Heuven, 1991, "The distribution of (word initial) glottal stop in Dutch", in: F. Drijkoningen & A. Van Kemenade (eds), *Linguistics in the Netherlands 1991*. Amsterdam / Philadelphia (Benjamins), 101-10
- Jongeneel, J., 1884, *Een Zuid-Limburgs taaleigen; proeve van vormenleer en woordenboek van de dorpspraak van Heerle, met taal- en geschiedkundige inleiding en bijlagen*. Heerlen (K. Weyerhorst)
- Kager, R., E. Visch & W. Zonneveld, 1987, "Nederlandse woordklemtoon", *GLOT* 10, 2, 197-226
- Kall-Holland, A., 1981, "Soziale und sprachliche Gliederungen in der Ortsgemeinschaft Erp", in: Besch et al., 214-37
- Katamba, F., 1989, *An introduction to phonology*. London etc. (Longman)

- Kats, J., 1985, *Remunjs waordeboek*. Roermond (Van der Marck)
- Kaye, A., 1988, review article of W. Dressler, 1985, *Morphonology; the dynamics of derivation*, Ann Arbor (Karoma), *Studies in language*, 12, 2, 527-32
- Kaye, J. & J. Lowenstamm, 1981, "Syllable structure and markedness theory", in: A. Belletti, L. Brandi & L. Rizzi (eds), *Theory of markedness in generative grammar; proceedings of the 1979 GLOW conference*. Pisa (Scuola Normale Superiore di Pisa) 1979. 287-315
- & J. Lowenstamm, 1986, "Compensatory lengthening in Tiberian Hebrew", in: L. Wetzels & E. Sezer (eds), 97-132
- Kiparsky, P., 1972, "Explanation in phonology", in: S. Peters (ed.), *Goals of linguistic theory*. Englewood Cliffs (Prentice Hall), 189-227
- 1973, "Elsewhere in phonology", in: S. Anderson & P. Kiparsky (eds), *A festschrift for Morris Halle*. New York (Holt, Rinehart & Winston), 93-106
- 1979, "Metrical structure assignment is cyclic", *Linguistic inquiry* 10, 3, 421-41
- 1982, "From Cyclic to Lexical Phonology", in H. van der Hulst & N. Smith (eds), *The structure of phonological representations. Part I*. Dordrecht (Foris), 131-76
- KKD 1987 = Kommissiejoeën Kirchröadsjer Dieksiejoneer, *Kirchröasjer dieksiejoneer*. Kerkrade (Stichting Kirchröadsjer Dieksiejoneer)
- Kloeke, G., 1927, *De Hollandsche expansie in de zestiende en zeventiende eeuw en haar weerspiegeling in de hedendaagsche Nederlandsche dialecten. Proeve eener historisch-dialect-geografische synthese*. 's-Gravenhage (Nijhoff)
- Kloeke, W.U.S. Van Lessen, 1982, *Deutsche Phonologie und Morphologie; Merkmale und Markiertheit*. Tübingen (Niemeyer)
- Kloss, H., 1984, "Umriss eines Forschungsprogrammes zum Thema 'Sprachentod'", *International journal of the sociology of language* 45, 65-76
- Knops, U., 1987, *Andermans en eigen taal. Een inleiding in de sociale psychologie van taal*. Groningen (Wolters-Noordhoff)
- Koefoed, G., 1978, "Taalverandering in het licht van taalverwerving en taalgebruik", in: G. Koefoed & J. Van Marle (eds), 11-70
- & J. Van Marle (eds) 1978, *Aspecten van taalverandering; een verzameling inleidende artikelen*. Groningen (Wolters-Noordhoff)
- Koelmans, L., 1979, *Inleiding tot de historische taalkunde van het Nederlands*. Utrecht (Bohn, Scheltema & Holkema)
- König, W., 1978, *div-Atlas zur deutschen Sprache. Tafeln und Texte*. München (Deutscher Taschenbuch Verlag)
- 1983, "Probleme der Repräsentativität in der Dialektologie", in: W. Besch et al. (eds), erster Halbband, 463-85
- Koster, J., 1987, *Domains and dynasties; the radical autonomy of syntax*. Dordrecht/Providence (Foris)
- Kreukels, L., 1987, "Vreemd gespuis en onbedorven jongens" [from his book *Vreemd gespuis*. Baarn, 1987 (Ambo / Novib)] *De Volkskrant*, October 10
- Kristensen, K. & M. Thelander, 1984, "On dialect levelling in Denmark and Sweden", *Folia linguistica* 18: 223-46
- Kuhn, Th., 1962, *The structure of scientific revolutions*, (2nd ed., enlarged, 1970). In: O. Neurath, R. Carnap & Ch. Morris (eds), *Foundations of the unity of science; toward an international encyclopedia of unified science*. Vol. 2, No. 2, Chicago (Chicago University Press)
- Labov, W., 1969, "Contraction, deletion and inherent variability of the English copula", *Language* 45, 4, 712-62
- 1972a, *Sociolinguistic patterns*. Philadelphia (Univ. of Pennsylvania Press)
- 1972b, "Some principles of linguistic methodology", *Language in society* 1, 97-120
- 1975, "Empirical foundations of linguistic theory", in: R. Austerlitz (ed.), *The scope of American linguistics*. Lisse (Peter De Ridder Press), 77-132

- (ed.), 1980, *Locating language in time and space*. New York etc. (Academic Press)
- 1981, "What can be learned about change in progress from synchronic description?", in: D. Sankoff & H. Cedergren (eds), 177-99
- , M. Yaeger & Steiner, R., 1972, *A quantitative study of sound change in progress*, Philadelphia (US Regional Survey)
- Lambert, R. & B. Freed (eds.), 1982, *The loss of language skills*. Rowley Mass., (Newbury House)
- & S. Moore, 1986, "Problem areas in the study of language attrition", in: Weltens et al. (eds), 177-86
- Langohr, J., 1936, *Het Zuidnederlandsch dialectgebied van Overmaas, Noordoosten der provincie Luik en Westen van 't kanton Eupen, Nederfrankisch oppervlakkig geripariseerd gebied*. Leuven (De Vlaamsche Drukkerij)
- Leenen, J., 1947, "Limburgse klankgrenzen", in: J. Leenen, S. Van der Meer & W. Roukens, 1-13
- 1954, "Een Limburgse en Nederlandse uitspraakregel", *Taal en tongval* 6, 1-24
- , S. Van der Meer & W. Roukens, 1947, *Limburgse dialectgrenzen*. Amsterdam (Bijdragen en Mededelingen der Dialectencommissie van de KNAW, IX)
- Le Page, R. & A. Tabouret-Keller, 1985, *Acts of identity: creole-based approaches to language and identity*. Cambridge (Cambridge University Press)
- Löffler, H., 1974, *Probleme der Dialektologie. Eine Einführung*. Darmstadt (Wissenschaftliche Buchgesellschaft)
- Lüdtkke, H., 1986, "Esquisse d'une théorie du changement langagière", *La linguistique*, 22, 1, 3-46
- Luzio, A. Di, 1987, "Italien", in: U. Ammon et al. (eds), Second volume, 1287-98
- Macfarland, T. & J. Pierrehumbert, 1991, "On ich-Laut, ach-Laut and structure preservation", *Phonology* 8, 171-80
- Mackey, W., 1965, *Language teaching analysis*. London (Longman)
- Markey, Th., 1981, "Diffusion, fusion and creolization: a field guide to developmental linguistics", *Papere zur Linguistik* 24, 1, 4-37
- MS., "Typologie der Sprachveränderung"
- 1986, "When minor is minor and major is major: language expansion, contraction and death", paper delivered for the Third International Conference on Minority Languages, University College, Galway, Eire, 21-26 June, 1986, MS
- Mattheier, K., 1980a, *Pragmatik und Soziologie der Dialekte; Einführung in die kommunikative Dialektologie des Deutschen*. Heidelberg (U.T.B. / Quelle & Meyer)
- 1980b, "Phasen sprachlicher Veränderungsprozesse in Diglossie-gebieten", in: P. Nelde (ed.) *Sprachkontakt und Sprachkonflikt*. (= Z.D.L. Beihefte, Neue Folge, 32) Wiesbaden (Steiner), 407-12
- 1983, "Der Dialektsprecher und sein Sprachgebrauch: Auswirkungen und Bedeutung für den Sprachwandel", in: W. Besch et al. (eds), zweiter Halbband, 1455-68
- 1984, "Dialektologische und dialektdidaktische Aspekte des Koexistenzmodells und des Variabilitätsmodells", *Germanistische Mitteilungen* 19, 5-17
- 1986, "Dialektverfall, Dialektabbau, Dialektveränderung", *Zeitschrift für Literaturwissenschaft und Linguistik (LiLi)* 16, Heft 62, 58-73
- Matthews, P., 1982, "Formalization", in: D. Crystal (ed.), *Linguistic controversies. Essays in linguistic theory and practice in honour of F.R. Palmer*. London (Arnold), 1-15
- Mayertaler, W., 1988 (=1981), *Morphological naturalness*. Ann Arbor (Karoma)
- Menge, H., 1983, "Erhebung von Sprachdaten in 'künstlerlicher' Sprechsituation (Experiment und Test)", in: W. Besch et al. (eds), erster Halbband, 544-49
- Merges, J., 1977, *Der untere Niederrhein; Studien zu seiner sprachlichen Entwicklung*. Ph.D.-diss. Rheinische Friedrich-Wilhelms Univ. Bonn
- Milroy, L., 1987, *Observing and analysing natural language; a critical account of sociolinguistic method*. Oxford (Blackwell)
- Moosmüller, S., 1987, *Soziophonologische Variation im gegenwärtigen Wiener Deutsch. Eine empirische Untersuchung*. Wiesbaden (Steiner)

- Mougeon, R., E. Beniak & D. Valois, 1985, "A sociolinguistic study of language contact, shift, and change", *Linguistics* 23, 3 (277), 455-87
- Muhr, R., 1981, *Sprachwandel als soziales Phänomen. Eine empirische Studie zu soziolinguistischen und soziopsychologischen Faktoren des Sprachwandels im südlichen Burgenland*. Wien (Braumüller)
- Münch, F., 1904, *Grammatik der ripuarisch-fränkischen Mundart*. Wiesbaden (Sändig). Photo-mech. reprint, Bonn 1970 (Bouvier)
- Munske, H., 1983, "Umgangssprache als Sprachenkontakterscheinung", in: W. Besch et al. (eds), zweiter Halbband, 1002-18
- Münstermann, H., 1986, "De vitaliteit van het Maastrichts. Resultaten van een onderzoek naar functionele en structurele aspecten van dialectverlies", in: Hagen (ed.), 109-27
- Muysken, P., 1978, "Syntactische veranderingen", in: G. Koefoed & J. Van Marle (eds), 177-92
- 1983, "Parasitic trees", in: *Proceeding of NELS 13*. GLSA, Amherst, Mass. 199-209
- 1984, "20 jaar sociolinguïstiek?", *Interdisciplinair tijdschrift voor taal- en tekstwetenschap* 4, 4, 259-68
- 1986, review article of A. Schmidt, 1985, *Young people's Dyrirbal. An example of language death from Australia, Cambridge etc.* (Cambridge University Press), *Applied psycholinguistics* 7, 3, 289-91
- 1990, "Concepts, methodology and data in language contact research: ten remarks from the perspective of grammatical theory", in: H. Baetens Beardsmore (ed.), *Papers for the workshop on concepts, methodology and data. ESF Network on Code-Switching and Language Contact. 12-13 Januari 1990, Basel*. Strasbourg
- Neijt, A., 1985, "Clitics in arboreal phonology", in: H. Van der Hulst & N. Smith (eds), 179-92
- 1991, *Universele fonologie. Een inleiding in de klankleer*. Dordrecht (Foris)
- Nespor, M., 1985, "The phonological word in Italian", in: H. Van der Hulst & N. Smith (eds), 193-204
- & I. Vogel, 1986, *Prosodic phonology*. Dordrecht/Riverton (Foris)
- Notten, J., 1974, *De Chinezen van Nederland; opstellen over Limburgse dialecten en een bibliografie*. Valkenburg (Het Land van Valkenburg)
- OCGL 1989 = Sectie Genealogie en Streekgeschiedenis van het Oudheidkundig en Cultuurhistorisch Genootschap Landgraaf (ed.), *De Franse volkstelling van 1796 in de toenmalige gemeenten Nieuwenhagen, Rimburg, Schaesberg en Ubach over Worms*.
- Oss, F. Van & C. Gussenhoven, 1984, "De Nederlandse slot-n in het nieuws", *Gramma* 8, 1, 37-45
- Oxford, R., 1982, "Technical issues in designing and conducting research on language skill attrition", in: R. Lambert & B. Freed (eds), 119-37
- Paardekooper, P., 1950, "Internaatstaal", *Taal en tongval* II, 31-39
- 1955, *Syntaxis spraakkunst en taalkunde*. Den Bosch (Malmberg)
- Paul, H., 1880, *Prinzipien der Sprachgeschichte*. Halle a.S. (Niemeyer; vierte Auflage 1909)
- Paumen, M., 1987, "Arm Zuid-Limburg, zo ver van God en zo dicht bij DSM; bewoners vrezen voor milieu en banen bij privatisering", *NRC Handelsblad*, September 30
- Petyt, K., 1980, *The study of dialect. An introduction to dialectology*. London (Deutsch)
- Plank, P. Van der, 1985, *Taalsociologie; een inleiding tot de rol van taal in het maatschappelijk verkeer*. Muiderberg (Coutinho)
- Pop, S., 1950, *La dialectologie. Aperçu historique et méthodes d'enquêtes linguistiques. Première partie: dialectologie Romane*. Louvain ('Chez l'auteur')
- Poplack, S., 1989, "The care and handling of a mega-corpus: the Ottawa-Hull French project", in: R. Fasold & D. Schiffrrin (eds), 411-51
- Pover, P., 1970, *Terugblik op een voltooide maatschappij en haar criminaliteit; onderzoek naar de evolutie van de criminaliteit als sociaal verschijnsel in het steenkolenbekken van Zuidlimburg*. Ph.D.-diss. Univ. van Amsterdam
- Provincial Information Office = Bureau Voorlichting Provincie Limburg, 1979, *Provincie Limburg. Perspectievennota Zuid-Limburg*. Informatieblad 1979, 2
- Radtke, E., 1987, "Regionale Vereinheitlichung und Diversifikation von Varietäten", in: U. Ammon et al. (eds), Second volume, 1493-1506

- Radtke, I., 1973, "Die Umgangssprache. Ein weiterhin ungeklärtes Problem der Sprachwissenschaft", *Muttersprache* 83, 3, 161-71
- Ramge, H., 1982, *Dialektwandel im mittleren Saarland*. Saarbrücken (Veröffentlichungen des Instituts für Landeskunde im Saarland - Band 30)
- Rede = "Rede über die Aachener deutsche Sprache. Inter omnes linguas, lingua aquisgrano germanica praeelsior". Anonymous, 18th century. In: L. Spronk, *Het Maastrichts vóór 1840*. M.A.-thesis KU Nijmegen, 1-15
- Reenen, P. Van, 1987, "Gradual and abrupt differences across dialects in Mediaval French", paper presented at the Workshop "New methods in dialectology" Amsterdam 7-10 december 1987, MS. A revised version appeared as "Isoglosses and gradual differences across dialects in medieval French" in: B. Schouten & P. Van Reenen (eds), 135-54
- Reiffenstein, I., 1976, "Primäre und sekundäre Unterschiede zwischen Hochsprache und Mundart; Überlegungen zum Mundartenabbau", in: H. Pohl & N. Salnikow (eds), *Opuscula slavica et linguistica; Festschrift für Alexander Issatschenko*. Klagenfurt (Heyn), 337-47
- 1980, "Zur Theorie des Dialektabbaus" with 'Diskussion', in: J. Göschel, P. Ivič & K. Kehr (eds), *Dialekt und Dialektologie; Ergebnisse des internationalen Symposiums "Zur Theorie des Dialekts", Marburg / Lahn 1977*. Wiesbaden (Steiner), 97-105
- Rein, K., 1983, "Bestimmende Faktoren für den variierender Sprachgebrauch des Dialektsprechers" in: W. Besch et al. (eds), zweiter Halbband, 1443-55
- Rickford, J., 1987, "The haves and have nots: sociolinguistic surveys and the assessment of speaker competence", *Language in society*, 16, 2, 149-77
- 1990, review article of P. Trudgill, 1986, *Dialects in contact*, Oxford (Blackwell), *Language in society* 19, 2, 268-74
- Rietveld, A., 1983, *Syllaben, klemtonen en de automatische detectie van beklemtoonde syllaben in het Nederlands*. Ph.D.-diss. KU Nijmegen
- Rindler Schjerve, R., 1987, *Sprachkontakt auf Sardinien. Soziolinguistische Untersuchungen des Sprachenwechsels im ländlichen Bereich*. Tübingen (Günther Narr Verlag)
- RND 1962 = E. Blancquaert, J. Claessens, W. Goffin & A. Stevens, *Reeks Nederlandse Dialektatlassen. Deel 8: Dialektatlas van Belgisch-Limburg en Zuid Nederlands-Limburg*. Antwerpen (De Sikkel)
- Roberge, P., 1985, "Grammatical prerequisites to phonological change?", *Zeitschrift für Dialektologie und Linguistik* 52, 188-217
- Rosenkranz, H., 1963, "Der Sprachwandel des Industriezeitalters im Thüringer Sprachraum", in: H. Rosenkranz & K. Spangenberg, *Sprachsoziologische Studien in Thüringen. Sitzungsberichte der Sächsischen Akademie der Wissenschaften zu Leipzig, Phil.-Hist. Klasse*. Band 108, Nummer 3. Leipzig, 7-51
- Roukens, W., 1947, "Dialectbegrenzing in Limburg - vooral met betrekking tot lexicologische en syntactische isoglossen", in: J. Leenen, S. Van der Meer & W. Roukens, 31-47
- Rousseau, P. & D. Sankoff, 1978, "A solution to the problem of grouping speakers", in: D. Sankoff (ed.), *Linguistic variation. Models and methods*. New York (Academic Press), 97-117
- Rowley, A., 1990, review article of A. Klepsch, *Lautsystem und Lautwandel der Nürnberger Stadtmundart im 19. und 20. Jahrhundert*, Tübingen (Niemeyer), *Leuvense Bijdragen* 79, 2, 206-208
- Saltveit, L., 1983, "Anlage der Modusysteme in den deutschen Dialekten", in: W. Besch et al. (eds), zweiter Halbband, 1220-32
- Sankoff, D., 1987, "Problems of representativeness", in: U. Ammon et al. (eds), Second volume, 899-903
- & H. Cedergren (eds), 1981, *Variation omnibus*. Carbondale etc. (Linguistic research inc.)
- & W. Labov, 1979, "On the uses of variable rules", *Language in society* 8, 189-222
- Sankoff, G., 1974, "A quantitative paradigm for the study of communicative competence", in: *The social life of language*. Philadelphia, 1980 (University of Pennsylvania Press), 47-79.
- Schane, S., 1973, *Generative phonology*. Englewood Cliffs (Prentice-Hall)

- Schatz, H., 1986, *Plat Amsterdams in its social context: a sociolinguistic study of the dialect of Amsterdam*. Amsterdam (Publikaties van het P.J. Meertensinstituut)
- Schelberg, P., 1979, *Woordenboek van het Sittards dialect*. Amsterdam (Rodopi)
- Scheutz, H., 1985a, *Strukturen der Lautveränderung; variationslinguistische Studien zur Theorie und Empirie sprachlicher Wandlungsprozesse am Beispiel des Mittelbairischen von Ulrichsberg/Oberösterreich*. Wien (Braumüller)
- 1985b, "Sprachvariation und Sprachwandel. Zu einigen Problemen ihrer Beschreibung und Erklärung", in: W. Besch & K. Mattheier (eds), *Ortssprachenforschung. Beiträge zu einem Bonner Kolloquium*. Berlin (Schmidt), 231-58
- 1987, "Lautwandel", in: U. Ammon et al. (eds), Second volume, 1603-14
- Schildt, J., 1987, "Industrialisierung und Urbanisierung", in: U. Ammon et al. (eds), Second volume, 1516-24
- Schirmunski, V., 1930, "Sprachgeschichte und Siedlungsmundarten", *Germanisch-Romanische Monatsschrift* XVIII, 113-22 (Teil I), 171-188 (Teil II)
- Schlobinski, P., 1987, *Stadtsprache Berlin. Eine soziolinguistische Untersuchung*. Berlin etc. (de Gruyter)
- Schmidt, A., 1985, "The fate of ergativity in dying Dyrbal", *Language* 61, 2, 378-96
- Schmidt, J., 1986, *Die mittelfränkischen Tonakzente (Rheinische Akzentuierung)*. Wiesbaden / Stuttgart (Steiner)
- Schnabel, P., 1989, "De fout van Popper", review article of H. Smit, 1989, *De biologie van aanleg en omgeving*, Ph.D.-thesis RU Limburg / Groningen (Wolters Noordhoff), *NRC Handelsblad*, October 31
- Schönfeld, M. & A. van Loey, 1970, *Schönfeld's historische grammatica van het Nederlands; klankleer, vormleer, woordvorming*. Zutphen (Thieme), 8th print
- Schouten, B., 1989, "Linguistic data and statistical analysis - Some reflections on the general discussion of session I", in: B. Schouten & P. Van Reenen (eds), 33-34
- & P. Van Reenen (eds), 1989, *New methods in dialectology. Proceedings of a workshop held at the Free University, Amsterdam, December 7-10, 1987*. Dordrecht / Providence (Foris)
- Schrijnen, J., 1920, *De isoglossen van Ramisch in Nederland*. Bussum (Brand)
- Schuchardt-Brevier = L. Spitzer (ed.), *H. Schuchardt-Brevier; ein Vademekum der allgemeinen Sprachwissenschaft*. Halle 1922 (Niemeyer)
- Schultink, H., 1986, "Geboefte en consorten als morfologisch probleem", *GLOT* 9, 1/2, 105-109
- Schutter, G. De, 1989, "Presentatieve constructies in het Nederlands. Een vergelijking van RND en materiaal-Willems", in: J. Goossens, J. Tældeman & A. Weijnen (eds), *Honderd jaar enquête Willems = Taal en tongval* themanummer 2. 83-94
- Seebold, E., 1983, "Diminutivformen in den deutschen Dialekten", in: W. Besch et al. (eds), zweiter Halbband, 1250-55
- Seidelmann, E., 1988, review article of H. Scheutz 1985a, *Strukturen der Lautveränderung; variationslinguistische Studien zur Theorie und Empirie sprachlicher Wandlungsprozesse am Beispiel des Mittelbairischen von Ulrichsberg/Oberösterreich*, Wien (Braumüller), *Leuvense Bijdragen* 77, 1, 117-24
- Sezer, E. & L. Wetzels, 1986, "Introduction", in: L. Wetzels & E. Sezer (eds), 1-9
- SGV 1914 = questionnaire compiled by J. Schrijnen, J. Van Ginneken & J. Verbeeten, the results of which were never published; the material is presently in charge of the NCDN, KU Nijmegen
- Siegel, J., 1985, "Koines and koineization", *Language in society* 14, 3, 357-78
- Siertsema, B., 1980, "Wat is het strukturalisme?", in: B. Tervoort (ed.), 195-211
- Simmler, F., 1983, "Konsonantenschwächung in den deutschen Dialekten", in: W. Besch et al. (eds), zweiter Halbband, 1121-29
- Singer, H., 1983, "Typen grammatischer Darstellung", in: W. Besch et al. (eds), erster Halbband, 693-702
- Singh, R. & A. Ford, 1989, "A closer look at so-called variable processes", in: R. Fasold & D. Schiffrin (eds), 367-80

- Slis, I. & M. Van Heugten, 1989, "Voiced-voiceless distinctions in Dutch fricatives", in: H. Bennis & A. Van Kemenade (eds), 123-32
- Sluyters, W., 1992, *Representing diphthongs*. Ph.D.-diss. KU Nijmegen
- Smith, N., 1980, "Wat is generatieve fonologie?", in: B. Tervoot (ed.), 76-96
- Spolsky, B., 1987, "Tests in sociolinguistics", in: U. Ammon et al. (eds), second volume, 932-40
- SPSS Inc., 1986, *SPSSx user's guide*. New York etc. (McGraw-Hill). 2nd edition
- Stellmacher, D., 1984, "Die Formen des Dialekts in ihrer Bedeutung für die 'Sprache'", in: B. Carstensen, F. Debus, H. Henne, P. von Polenz, D. Stellmacher & H. Weinrich, *Die deutsche Sprache der Gegenwart. Vorträge, gehalten auf der Tagung der J. Jungius-Gesellschaft der Wissenschaften, Hamburg, am 4. und 5. November 1983*. Göttingen (Vandenhoeck & Ruprecht)
- Stijnen, S. & T. Vallen, 1981, *Dialect als onderwijsprobleem; een sociolinguïstisch-onderwijskundig onderzoek naar problemen van dialectsprekende kinderen in het basisonderwijs*. Ph.D.-diss. KU Nijmegen (Staatsuitgeverij / S.V.O.)
- Stroop, J., (ed.), 1983, *Nederlands dialectonderzoek; artikelen uit periode 1927-1982*. Amsterdam (Huis aan de Drie Grachten)
- Swanborn, P., 1978, "De kunst van het meten, of de operationalisering van beroepsprestige", in: J. Peschar & W. Ultee (eds), *Sociale stratificatie; op weg naar empirisch-theoretisch stratificatieonderzoek in Nederland*. Deventer (Van Loghum Slaterus), 40-64
- Taelleman, J., 1978, "Adjektieffleksie in de Zuidnederlandse dialecten", in: J. Stroop (ed.), 1983, 211-29
- 1987, "A typology of dialect transitions in Flanders", in: B. Schouten & P. Van Reenen (eds), 155-63
- & H. Dewulf (eds), 1985, *Dialect, standaardtaal en maatschappij*. Leuven etc. (Acco)
- Tervoot, B. (ed.), 1980, *Wetenschap & taal III; een derde reeks benaderingen van het verschijnsel taal*. Muiderberg (Coutinho)
- Thelander, M., 1980, *De-dialectalisation in Sweden*. Uppsala (Uppsala Univ; FUMS rapport, 86)
- 1982, "A qualitative approach to the quantitative data of speech variation", in: S. Romaine (ed.), *Sociolinguistic variation in speech communities*. London (Arnold), 65-83
- Thibault, P. & M. Daveluy, 1989, "Quelques traces du passage du temps dans le parler des Montréalais, 1971-1984", *Language variation and change* 1, 1, 19-45
- Thinnes, N., 1981, *Untersuchungen zur Variation nasaler Vokale; ein soziolinguistischer Beitrag zum Rheinfränkischen*. Wiesbaden (Steiner)
- Thomason, S. & T. Kaufman, 1988, *Language contact, creolization and genetic linguistics*. Berkeley etc. (University of California Press)
- Toorn, M. Van Den, 1978, *Methodologie en taalwetenschap*. Utrecht etc. (Spectrum)
- Treffers, J., 1989, "Ontleende adjectieven in het Brussels dialect", *Taal en sociale integratie* 13, 63-88
- Trommelen, M., 1984, *The syllable in Dutch; with special reference to diminutive formation*. Ph.D.-diss. RU Utrecht / Dordrecht/Cinnaminson (Foris)
- & W. Zonneveld, 1979, *Inleiding in de generatieve fonologie*. Muiderberg (Coutinho)
- Tropf, H., 1983, *Variation in der Phonologie des ungesteuerten Zweitspracherwerbs; Band I Theorie und Methode; Band II Analysen der Daten*. Ph.D.-diss. Heidelberg Univ.
- Trost, P., 1968, "Primäre und sekundäre Dialektmerkmale", in: L. Schmitt (ed.), *Verhandlungen des 2. internationalen Dialektologenkongresses, Marburg 1965 Band 2*. Wiesbaden (Steiner), 823-26
- Trudgill, P., 1986, *Dialects in contact*. Oxford (Blackwell)
- , 1988, "Norwich revisited: recent linguistic changes in an urban dialect", *English world-wide* 9, 1, 33-49.
- Vellenga, S., 1975, *Katholiek Zuid Limburg en het fascisme. Een onderzoek naar het kiesgedrag van de Limburger in de jaren dertig*. Assen (Van Gorcum)
- Vennemann, Th., 1972, "On the theory of syllabic phonology", *Linguistische Berichte*, 18, 1-18
- Vuijsje, H., 1990, "De bevrijding van Brabant en Limburg. Katholieke provincies hebben nu laagste geboortecijfer", *NRC Handelsblad*, January 27

- Vuijsje, H., 1990, "De bevrijding van Brabant en Limburg. Katholieke provincies hebben nu laagste geboortecijfer", *NRC Handelsblad*, January 27
- Weerman, F., 1988, "Moet kunnen: Middelnederlandse zinnen zonder subject", *Nieuwe taalids* 81, 4, 289-310
- Weijnen, A., 1966, *Nederlandse dialectkunde*. Assen (Van Gorcum). 2nd edition
- 1967, "Sociodialectologische onderzoeken in Limburg", in: J. Daan & A. Weijnen, *Taalsociologie*. Amsterdam (Bijdragen en Mededelingen der Dialectencommissie van de KNAW, XXXII), 16-27
 - 1977, *The value of the map configuration = Mededelingen van de Nijmeegse Centrale voor Dialect- en Naamkunde*, special issue
- Weinreich, U., 1953, *Languages in contact; findings and problems*. New York (Publications of the Linguistic Circle of New York, 1)
- 1954, "Is a structural dialectology possible?" *Word* 10, 2-3, 388-400
 - , W. Labov & M. Herzog, 1968, "Empirical foundations for a theory of language change", in: W. Lehmann & Y. Malkiel (eds), *Directions for historical linguistics; a symposium*. Austin etc. (Univ. of Texas Press), 95-189
- Weltens, B., K. De Bot en Th. Van Els (eds), 1986, *Language attrition in progress*. Dordrecht/Providence (Foris)
- Wester, J. & L. Wetzels, 1986, "Niet-lineaire fonologie, een theorie in SPE", *Gramma* 10, 2, 89-103
- Westerlaak, J. Van, J. Kropman & J. Collaris, 1975a, *Beroepenklapper; beroepenclassificaties (bestemd voor intern gebruik)*. Inst. voor Toegepaste Sociologie, KU Nijmegen
- , J. Kropman & J. Collaris, 1975b, *Beroepenklapper; toelichting (bestemd voor intern gebruik)*. Inst. voor Toegepaste Sociologie, KU Nijmegen
- Wetzels, L., 1989, "Sonority, major class features, syllable structure, manner features: how much of the same? The case of Yakut", in: H. Bennis & A. Van Kemenade (eds), 173-83
- 1990, "Umlaut en verkleinwoordvorming in het Schinnens", *Gramma* 14, 2, 139-68
 - 1993, "La phonologie de la flexion adnominale dans un dialecte limbourgeois (Pays-Bas)", in: B. Laks & A. Rialland (eds), *L'Architecture des représentations phonologiques*. Paris. (Editions du CNRS, Sciences du Langage), 203-31
 - & E. Sezer (eds), 1986, *Studies in compensatory lengthening*. Dordrecht (Foris)
- Wiese, R., 1986, "Zur Theorie der Silbe", *Studium Linguistik* 20, 1-15
- 1988, *Silbische und lexikalische Phonologie. Studien zum Chinesischen und Deutschen*. Tübingen (Niemeyer)
 - 1992, "Über die Bedeutung der Phonologie für die Morphologie", *Deutsch als Fremdsprache* 29, 131-35
- Wiesinger, P., 1983, "Die Einteilung der deutschen Dialekte" in: W. Besch et al. (eds), zweiter Halbband, 807-900
- Willems 1886 = questionnaire by Willems, the results of which were never published; the material is in charge of the Royal Flemish Academy in Gent
- Willemyns, R., 1987, "Norm en variatie in Vlaanderen", in: J. De Rooij (ed.), *Variatie en norm in de standaardtaal*. Amsterdam (Publikaties van het P.J. Meertensinstituut, deel 7), 143-64
- Wilterdink, N., 1988, "De voortdurende vernederlandsing van Nederland", review article of H. Knippenberg & B. De Pater, 1988, *De eenwording van Nederland. Schaalvergroting en integratie sinds 1800*, Nijmegen (SUN), *NRC Handelsblad*, December 17
- Winkler, J., 1874, *Algemeen Nederduitsch en Friesch dialecticon*. Eerste deel. 's-Gravenhage (Nijhoff)
- WNT = M. de Vries, L. te Winkel and many others (eds), 1882-..., *Woordenboek der Nederlandsche taal*. 's-Gravenhage / Leiden (Nijhoff)
- Wölck, W., 1978, "Towards a classificatory matrix for linguistic varieties, or: The dialect / language problem revisited", in: M. Paradis (ed.), *Aspects of bilingualism*. Columbia, S.C. (Hornbeam), 211-19

- Wolf, N., 1983, "Durchführung und Verbreitung der zweiten Lautverschiebung in den deutschen Dialekten", in W. Besch et al. (eds), zweiter Halbband, 1116-21
- Wrede, F., 1919, "Zur Entwicklungsgeschichte der deutschen Mundartforschung", *Zeitschrift für deutsche Mundarten* 3-18
- Yaeger-Dror, M., 1987, "Sound change in progress", in: U. Ammon et al. (eds), Second volume, 1591-1603
- 1989, "Real time vs. apparent time change in Montreal French", in: P. Livesey & M. Verma (eds), *Festschrift R.B. Le Page = York papers in linguistics* 13, 141-53
- Zonneveld, W., 1982, "The descriptive power of the Dutch theme-vowel", *Spektator*, 11, 342-65
- 1986, "De stand van zaken in de generatieve fonologie", *Gramma* 10, 3, 339-50

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